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NORTHERN
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of potential coal development

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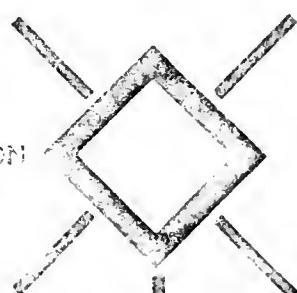
date Sept. 30, 1973

DEPARTMENT of INTERGOVERNMENTAL RELATIONS • DIVISION
of PLANNING and ECONOMIC DEVELOPMENT state of montana
and

NORTHERN CHEYENNE TRIBAL COUNCIL

prepared by
WIRTH ASSOCIATES
Billing and taxes

associate consultant
INTERMOUNTAIN PLANNERS
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INTRODUCTION

The Northern Cheyenne Indian Tribe is facing a situation which could conceivably change their way of life, indeed cause the dissolution of the Northern Cheyenne Reservation and Nation. This has come about because the Reservation lies above some of the largest known deposits of sub-bituminous coal in the entire United States. A local geologist¹, well-known in his field, indicates (as a conservative estimate) that the quantity of mineable coal is in the magnitude of some three to four billion tons, within the Reservation boundaries.

The existence of coal seams on the Reservation has long been known to the Northern Cheyenne and everyone else. Early U. S. Geological reports go into some detail about the mineral. There were several small mines operated on the Reservation until about a decade ago, when the use of coal for fuel almost became a thing of the past.

The energy crisis has now changed all that. These changes and the reasons behind them are more fully documented later in this document. The important fact is that the Northern Cheyenne Tribal Council, realizing the gravity and potentially catastrophic effect of mining on the existing socio-economic climate of the Reservation has directed that this analysis be prepared to provide some idea of what to expect and perhaps provide some direction for Tribal policy makers.

This report is part of a larger, overall 701 Comprehensive Planning Study, the balance of which is to be started following this analysis. The forthcoming planning study will attempt to quantify some of the data contained in the report and suggest several management alternatives which might be implemented by the Tribal Council.

The purpose of this socio-economic analysis was to have examined the impact of potential coal development on the Northern Cheyenne Tribe and Reservation. Initially, the problem seemed a simple one, in that the impact would depend upon the magnitude of mining development that was to have taken place, and what types of secondary development that would have occurred; i.e., construction of thermal generation or gasification plants on the Reservation. However, the straightforward nature of this situation was soon clouded in problems of a legal, social and economic nature.

Various actions have been taken by proponents, opponents and the potential mining companies, which have somewhat altered the scope of this study. As a result, the study has had to be more general in scope than was originally hoped for, and forecasts made which were based more on educated guesses than from hard core facts and corporate projections.

There have been few if any solutions offered by this study. Instead we have outlined the problem areas as we see them and provided reasons which we hope will cause some policy decisions to be made by the Tribal Council leading

to potential actions ending in satisfactory solutions. Basically, until the hard core problems are solved, no answers can be suggested which will be meaningful to the Tribe.

Nevertheless, this analysis has indicated to the Northern Cheyenne Tribal Council several areas which are going to need considerable further study, analysis and juridical solutions if the over-all situation is to be made better for the Tribe. The tribe must have several matters clarified before they dare take any steps to allow development of any kind to occur on the Reservation. Those solutions will have profound effect upon the Tribe which, given the economic stimulus and power of royalties and increased personal income, will be a significant economic and social force in Eastern Montana.

BACKGROUND STUDIES

Brief History of the Northern Cheyenne

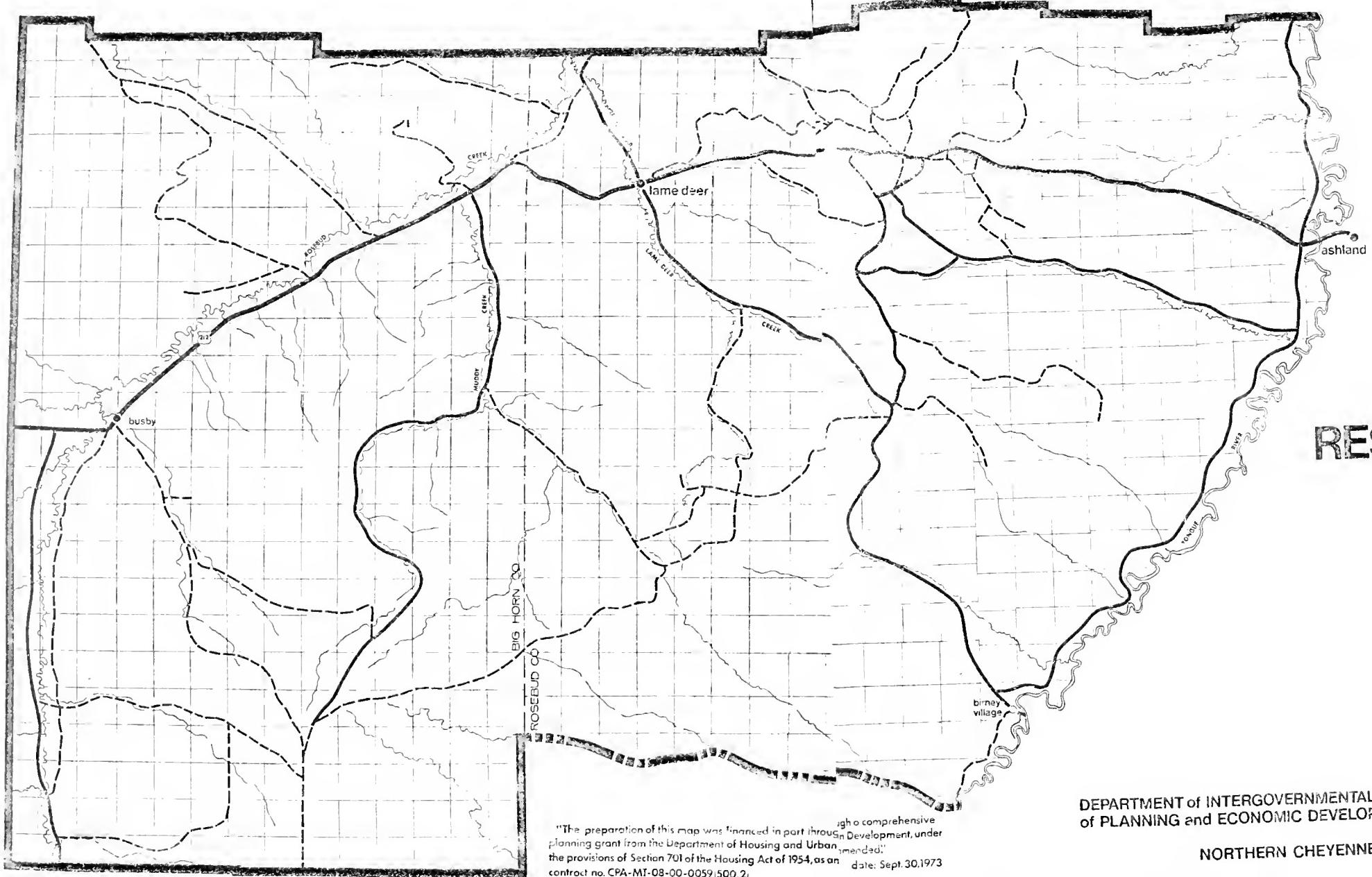
Currently the Reservation boundary encompasses 433,434.21 acres, of which 0.68 belong to the federal government, 163,911.99 acres are owned by individuals, and 269,521.54 acres are owned by the Tribe.²

The Cheyenne Indians which include the Northern Cheyenne were encountered by white explorers at an early date. They were reported by the French as early as 1680. When Lewis and Clark met them in 1804, they were living on the plains near the Black Hills. They changed rapidly at about this time from an agricultural people to a typical plains Indian.

The Cheyenne made their first treaty with the U. S. Government in 1868. The Tribe was divided as a result of the building of Bent's Fort on the Upper Arkansas River in Colorado in 1832. One group moved south and established headquarters on the Arkansas while the other group remained between the North Platte and Yellowstone Rivers. This separation was made permanent by the treaty of Fort Laramie in 1851 and the two groups were designated Southern and Northern Cheyenne. During the next 25 years the Northern Cheyenne were involved in numerous wars and skirmishes with enemy tribes and U. S. Government. In 1876 the Northern Cheyenne joined the Sioux under Sitting Bull and took part in the Custer Massacre. Following the Sitting Bull War, most of them were taken to Fort Reno, Oklahoma to be combined with the Southern Cheyenne.

After several attempted escapes from Fort Reno and also from Fort Robinson, Nebraska, they were successful in escaping and returned to their present Reservation, originally called the Tongue River Reservation in about 1886. The original reserve set aside by President Arthur consisted of about 271,000 acres between the Crow Reservation and an imaginary line ten miles east of the Tongue River. In 1900, President McKinley moved the boundary line westward to the Tongue River.³

Small agricultural tracts along the rivers and streams had been settled by whites prior to the establishment of the Reservation. These lands in trust were purchased by the government from about 40 white settlers. Allotments were not made on the Reservation until 1926. Unallotted lands were not opened



THE
RESERVATION
CIRCULATION

MAJOR ROUTE—
SECONDARY ROUTES—
LOCAL ROADS---

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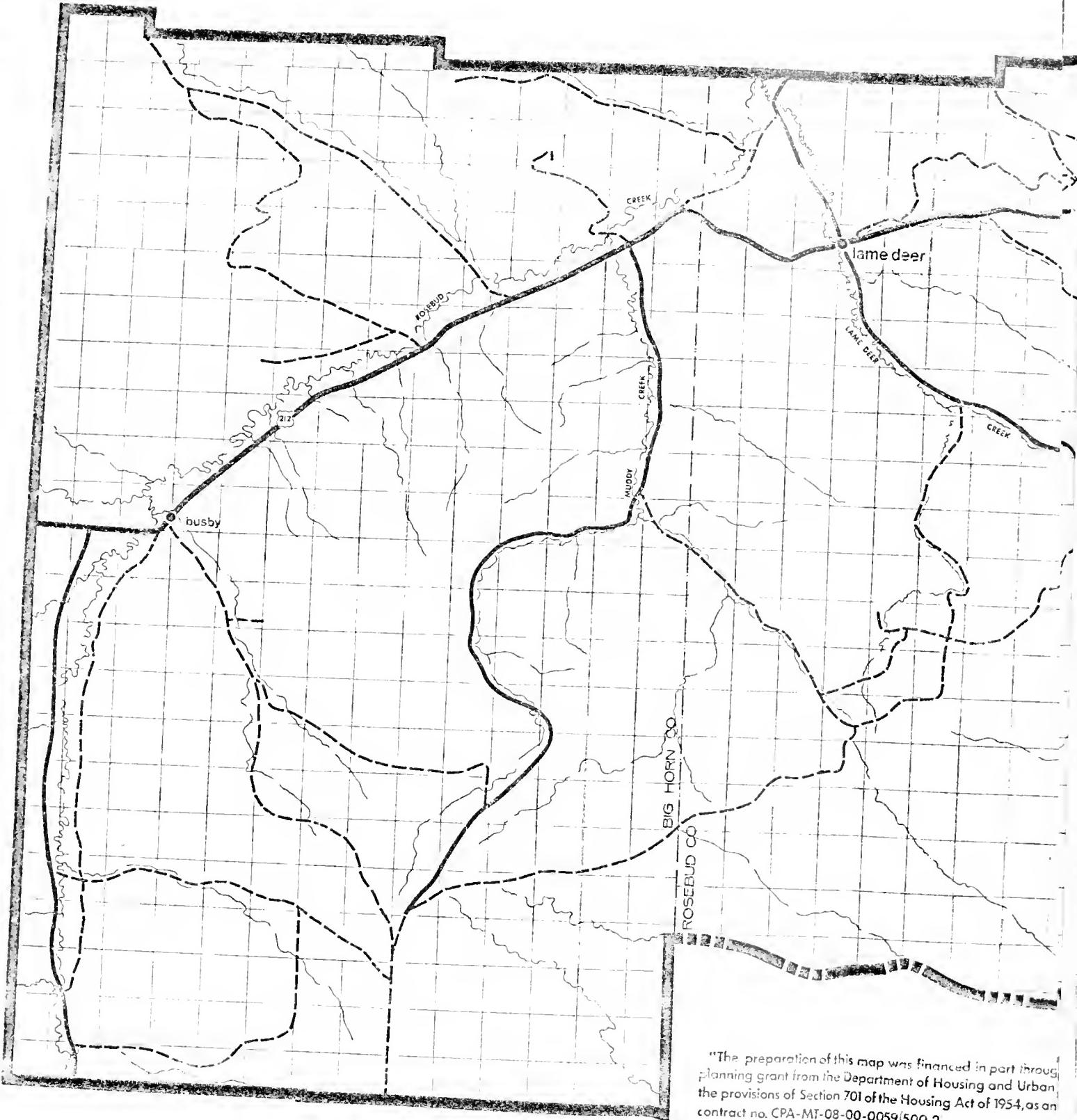
NORTHERN CHEYENNE TRIBAL COUNCIL

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socio-economic analysis of potential coal development

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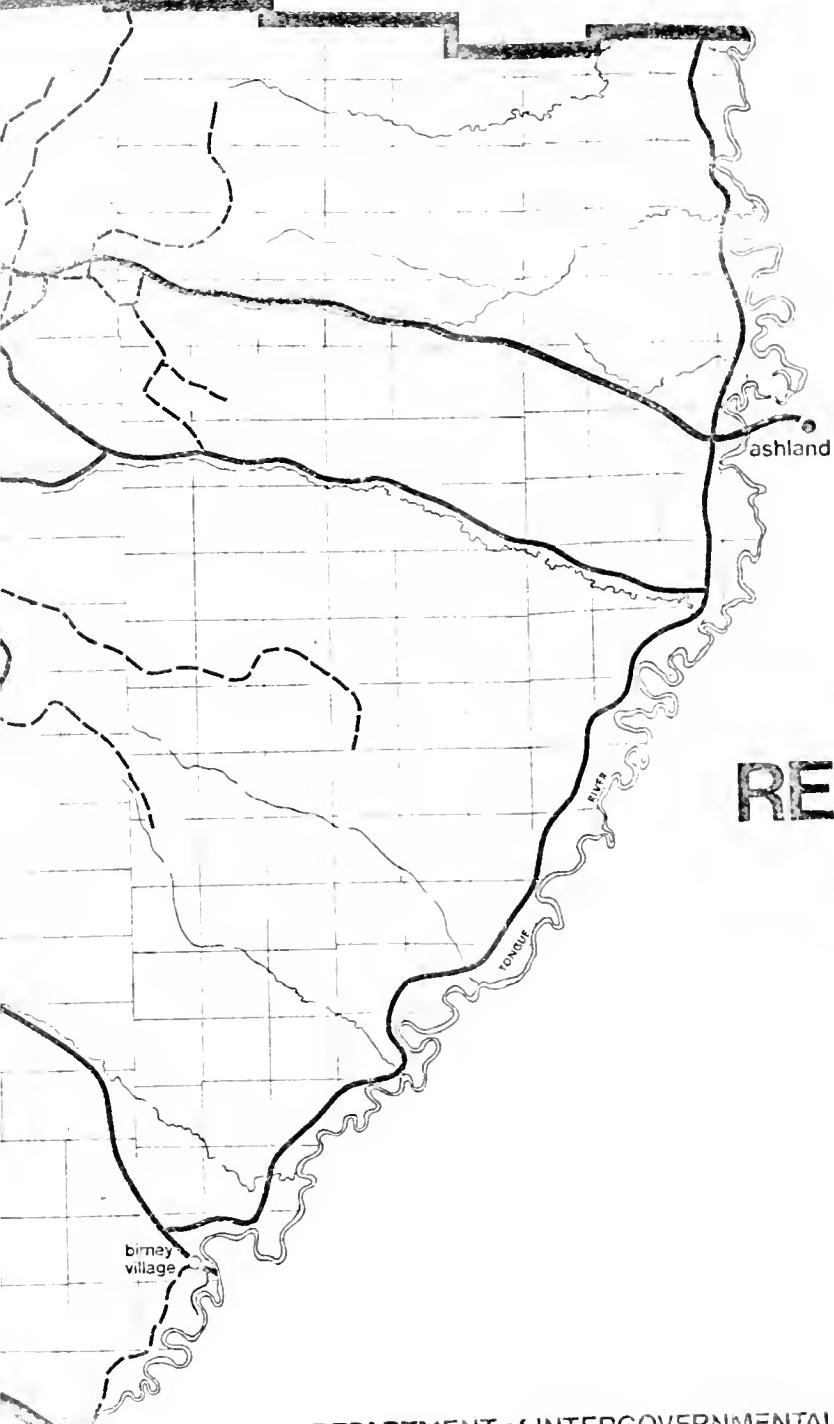
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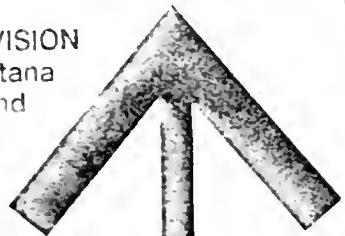


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for homestead entry as on some other reservations, but were reserved as Tribal Land. The Reservation, therefore, was not checkerboarded with land owned by whites.

The Northern Cheyenne Tribe was not formally organized until 1936. Two types of land holdings exist on the Northern Cheyenne Reservation; one, Tribal Land and two, allotments, i.e., land allotted to individual Indians. Very little non-Indian land exists within the Reservation except for the townsites of Lame Deer and Busby.

Regional and Geologic Considerations

The Northern Cheyenne Reservation lies within the boundaries of a geologic region known as the Fort Union Formation, which encompasses northeastern Wyoming, eastern Montana, western North and South Dakota. This area contains one of the largest known coal basins in the world with estimated reserves of 1.3 trillion tons.⁴ The Regional Map indicates the general location of the Reservation in relationship to the primary land masses, population centers, rail lines and highways. It also indicates surrounding areas of potentially stripable coal deposits, derived from data from the Montana Bureau of Mines.⁵

Coal bearing formations underlie all the Northern Cheyenne Reservation. Coal beds crop out on the Tongue River and Lebo shale members of the Fort Union Formation. Coal also occurs in the underlying Lance formations, but does not crop out within the boundaries of the Reservation. Total thickness of the formations exposed on the Reservation is about 2,000 feet. Within this zone there are probably ten significant coal beds that vary in thickness from a few inches up to 40 feet or more.⁶

The coal bearing formations are lying nearly flat and coal beds can readily be recognized by the clinkers formed by the burned outcrop of the coal. The individual coal beds are typically lens shaped, tapering gradually in all directions from a thick center to thin edges.⁷

Coal reserves on the Reservation are estimated to exceed five billion tons. The coal on the Reservation is classed as sub-bituminous and varies somewhat in quality depending upon the individual bed. An average coal on the Reservation would contain in the order of 25 percent moisture, 7 percent ash, .9 of one percent sulphur and have a heating value of 8600 btu per pound.⁸

Coal has been mined on the Reservation since the first settlers used it for domestic purposes. It has been mined only for local use, however, and three mines have supplied the major production. The potential of the area can be visualized from the past operations of the Northern Pacific Railway at Colstrip some 19 miles north of the Reservation. In this larger operation which started in 1924, up to two million tons of coal were mined annually for locomotive fuel.⁹ Montana Power and Light Company has bought the Colstrip mine and is using it to supply coal for operation of a steam driven electric power generating plant at Billings, and is building a mine-mouth generation plant in Colstrip. Permits have been requested for construction of two more at the same site.

ENERGY CRISIS

In order to better comprehend the interest in coal as a source of energy and electric power production, it is worthwhile to examine the historical growth of the energy cycle in the United States.

"Coal, to a greater extent than any other domestic energy resource, has felt the impact of economic, social, and political change in the past quarter century. The fortunes of coal have been affected by such diverse factors as the dieselization of railroads, the advent of nuclear power, the incidence of black lung disease, and the federal management of the mandatory oil import program. More recently, expanded concern for the quality of our environment has confronted coal with a series of new and difficult challenges."¹⁰

Despite a history of uncertainty, coal remains an increasingly critical element in our national energy picture. The fact that the United States has a 300 year reserve of coal, at today's rates of consumption, it is particularly ironic because the role of coal in our energy supply system had been declining.¹¹ (See Table I) We have reached the point where a complex combination of factors, including a declining domestic resource base in oil and gas and recent environmental policies have led to the need for examination in much greater detail of the true societal cost of so called low cost energy fuels.

Coal, the most abundant of our domestic fuel resources, epitomizes in many ways the nature of our energy environment dilemma. Coal represents more than three quarters of our domestic energy resource base and yet supplies barely twenty percent of our total energy needs. By all estimates our physical coal reserves are sufficient to meet our needs even at greatly increased rates of consumption for hundreds of years. This is compared to oil and gas reserves which are estimated to run out in the next several decades and indeed which we are now importing at an ever increasing rate.¹² (See Table I)

The pattern of coal demand and use has changed significantly since 1945. For example, in the five years between 1945 and 1950, there was more than a fifty percent reduction in the use of coal by the railroads from (from 25 million tons to 61 million tons). Continued dieselization of the railroads was so complete that in the next ten years (by 1950) the annual consumption by this same use category was down to about two million tons. In terms of total consumption, the railroads which represented 25 percent of the total consumption of 560 million tons dropped to about 12 percent of total consumption in 1950 to four percent in the late 1950 and to less than one percent in the early 1960's. Similarly the advent of the welded pipe line and the convenience and cleanliness of gas and oil for space heating brought about equally dramatic reductions in retail dealer deliveries of coal. From a high of 119 million tons (21 percent of total consumption) in 1945 such deliveries dropped to 84 million tons in 1950 (18 percent of total consumption) to 30 million tons (about eight percent of total consumption) in 1960 and to only 11 million tons (a little over two percent of total consumption) in 1971.¹³

In contrast to railroad and retail use of coal, the general pattern of consumption by the electric utility industry has reflected a rapidly accelerating demand. While at the end of World War II, the annual coal consumption of the

TABLE 1 - YEARLY CONSUMPTION, BY CONSUMER CLASS, OF BITUMINOUS COAL
(In thousands of tons)

| Electric Power Utilities Year | Bunker Foreign Trade | Railroads (Class 1) | Beehive Coke Plants | Oven Coke Plants | Steel and Rolling Mills | Cement Mills | Other Mfg. and Mining Industries | Retail Dealer Deliveries | Total |
|----------------------------------|----------------------|---------------------|---------------------|------------------|-------------------------|--------------|----------------------------------|--------------------------|---------|
| 1935 | 30,936 | 2,368 | 77,109 | 1,469 | 49,046 | 16,585 | 3,456 | 94,598 | 80,444 |
| 1940 | 49,126 | 2,989 | 85,130 | 4,803 | 76,583 | 14,169 | 5,559 | 107,864 | 34,687 |
| 1945 | 71,603 | 3,192 | 125,120 | 8,135 | 87,214 | 14,241 | 4,203 | 126,562 | 119,297 |
| 1950 | 88,262 | 2,042 | 60,969 | 9,088 | 94,757 | 10,877 | 7,923 | 95,862 | 84,422 |
| 1955 | 140,550 | 1,499 | 15,473 | 2,869 | 104,508 | 7,353 | 8,529 | 89,611 | 53,020 |
| 1960 | 173,882 | 945 | 2,101 | 1,640 | 79,375 | 7,378 | 8,216 | 76,487 | 30,405 |
| 1961 | 179,629 | 770 | {1,496} | 72,385 | 7,495 | 7,615 | 77,280 | 27,735 | 374,405 |
| 1962 | 190,833 | 687 | {1,339} | 72,923 | 7,319 | 7,719 | 78,766 | 28,188 | 387,774 |
| 1963 | 209,038 | 670 | {1,613} | 76,020 | 7,401 | 8,138 | 82,797 | 23,548 | 409,225 |
| 1964 | 223,032 | 711 | {2,025} | 86,732 | 7,394 | 8,679 | 82,928 | 19,615 | 431,116 |
| 1965 | 242,729 | 655 | {2,693} | 92,086 | 7,466 | 8,873 | 85,614 | 19,048 | 459,164 |
| 1966 | 264,202 | 609 | {2,369} | 93,523 | 7,117 | 9,149 | 89,332 | 19,955 | 486,266 |
| 1967 | 271,784 | 467 | {1,372} | 90,900 | 6,330 | 8,922 | 83,542 | 17,099 | 480,416 |
| 1968 | 294,739 | 417 | {1,268} | 89,497 | 5,657 | 9,391 | 82,637 | 15,224 | 498,930 |
| 1969 | 308,461 | 313 | {1,158} | 91,743 | 5,560 | (34) | 85,374 | 14,666 | 507,275 |
| 1970 | 320,460 | 293 | {1,428} | 94,581 | 5,410 | (4) | 82,909 | 12,072 | 517,158 |
| 1971 | 326,280 | 207 | {1,289} | 81,531 | 5,560 | (4) | 68,655 | 11,351 | 494,873 |

¹ Canvass discontinues

² These are preliminary figures. At press time, no revised monthly data were available.

³ 1969 consumption figures were revised.

"Other manufacturing and mining industries" was available.

⁴ Include with "Other manufacturing and mining industries" 1969-71.

Source: "Bituminous Coal Data," 1971 edition, National Coal Association

electric utility industry was about 72 million tons (about 13 percent of total coal consumption) it jumped to a 174 million tons in 1960 (46 percent of total coal consumption) and to 326 million tons in 1971 (66 percent of total coal consumption).¹⁴

However, while the tonnages of coal for the generation of electricity have shown these rather dramatic increases as a primary fuel for the utilities market, coal's relative share has failed to increase and has even declined in the past decade. In 1945, 52 percent of the total kilowatt hours produced was generated from coal compared to about four percent from oil and nine percent from gas. In 1960 coal was still the primary fuel accounting for 54 percent of the electricity generated compared to six percent for oil and 21 percent for gas. Ten years later, by 1970, coal's relative share while still the largest had slipped to 46 percent of total electric power generation. Oil was at 12 percent, gas at 24, and nuclear had entered the picture at less than two percent. Increasingly, much of the new generating capacity in the last 20 years has turned to oil or gas rather than coal for fuel because of price competitiveness and most recently air pollution control requirements, primarily those dealing with sulphur. During this time period, hydro-electric power declined from 35 percent to 16 percent of total electric power generation.¹⁵

Predictions of impending shortages of natural gas and of crude oil have been made so often in recent years that the American public has become skeptical. However, the declining rate of gas discoveries in the continental United States accompanied by a continually increasing demand has now brought the country face to face with a shortage of natural gas. Some gas companies are now curtailing present uses and declining requests for extension of service in a number of locations. Convenience, cleanliness and low cost of natural gas have attracted millions of householders and owners of apartments and business establishments to convert to gas from whatever fuel they previously used for space heating or to install new heating equipment using gas rather than competitive fuels, usually domestic fuel oil. This use of natural gas combined with the conversion from coal to oil firing has brought about a revolution in American cities. Now the air in St. Louis, Pittsburgh, and Chicago is usually not polluted by smoke and soot as it was during the winter seasons when coal was the principal fuel.

The United States has been fortunate in the past in possessing large reserves of the three major fossil fuel energy sources; gas, oil and coal. In recent years, however, the nation's energy picture has changed drastically with respect to oil and gas. After World War II the oil finding rate in the continental United States fell and currently imports supply over 25 percent of the country's oil requirement. It is estimated that oil imports will supply 50 percent of U. S. requirements by 1980.

The natural gas picture is not greatly different. Additions to domestic natural gas reserves have not equalled the use since 1966 and the gap between yearly additions to reserves and consumption is growing rapidly. Curtailment of gas for utility use has already begun and without new sources of supply, such limitations will increase. Natural gas can be imported by pipeline from

Canada and Mexico and Alaska but these amounts are limited. Gas can also be imported from overseas in liquified form, however such a solution is expensive and increases U. S. dependence on foreign sources of supply for gas as well as for oil.

The United States, with approximately six to seven percent of the world population, produces about one-third of the world's annual energy output. In 1970 this required 550 million tons of coal, 700 million tons of oil, and 500 million tons of natural gas. Overall, fossil fuel use increased an average of 3.2 percent per year from 1931 to 1962 and 4.2 percent per year during the last ten years. Electric power, which has been produced to date mainly from fossil fuels has an annual growth rate of six to seven percent.

Total U. S. energy requirements in 1970 were about 68×10^{15} btu, 32 percent of which was provided by natural gas. Residential, commercial and industrial customers depend on gas for approximately one-half of their energy needs and one-fourth of the fuel requirements of steam electric plants are supplied by natural gas. Coal provides about 20 percent of our energy requirements, petroleum 43 percent, and hydro and nuclear energy sources about three percent.

Through World War II, the United States supplied all its own energy growth requirements and also exported large amounts of oil and coal. After World War II oil finding declined in the continental United States and exploration moved towards off-shore drilling and greater exploratory effort in foreign countries. By 1970, the reserves of oil in the Middle East and Africa were ten times those of the United States and imports supplied 25 percent of U. S. requirements. Without major new domestic oil supplies, it is estimated that imports will supply 50 percent of requirements by 1980.

Due to the shortages of both gas and oil, prices are expected to increase. At a time when the country is in urgent need for clean fuels to reduce pollution, it faces shortages and higher prices for those fuels best suited for this purpose. For the United States, coal and oil shale are the remaining fossil fuel sources abundantly available.

From the environmental standpoint, gas is the most satisfactory fuel, but assuming that all the present uses of natural gas are to continue, that fuel price relationships will remain constant, that present users are permitted to expand at the rate of the past few years, and that no substantial new uses arise or are permitted, the Institute of Gas Technology has estimated deficiencies in supply as follows (in trillions of cubic feet):

| YEAR | DEMAND | PRODUCTION | DEFICIENCY |
|------|--------|------------|------------|
| 1980 | 30.5 | 22.7 | 7.8 |
| 1985 | 34.6 | 21.4 | 13.2 |
| 1990 | 38.1 | 19.8 | 18.3 |

The above production estimates include gas imported from Canada and Mexico and assume a pipeline supplying gas from Alaska after 1980.

The projected deficiencies of natural gas for the 1980-1990 period are enormous and it would be unrealistic to think they could be made up entirely with synthetic gas from coal if for no other reason than lack of capacity to produce the special equipment that would be required for the plant. In addition, very large investments would be necessary to produce synthetic gas to provide a major fraction of the projected deficiency. For example, it would take 12 plants each making 250 million cubic feet per day to supply about five or six percent of the 18.3 trillion cubic foot deficiency projected for 1990. A reasonable estimate of capital requirements for one plant and coal mine (in terms of 1971 costs in dollars) is 280 million dollars (250 million for plants and 30 million for mines), making the total capital investment for 12 plants about 3.4 billion.

Extensive coal resources are available in the United States and should provide many suitable locations for plants making gas from coal. It is likely that coal gasification plants will be used to supplement natural gas supplies and that the delivered gas will be a mix of natural gas and synthetic gas.

Large reserves and wide spread availability of coal in the United States give coal gasification a substantial advantage over processes requiring imported raw material. In addition, coal supplies such as those in Appalachia and mid-west regions are located close to major centers of population thus minimizing product gas transportation.

At the present time there are several types of processes being evaluated and tested for use in the production of natural gas from coal. Some of these processes are as follows:¹⁶

- a) Lurgi process
- b) Hygas process -- The Hygas process has three different methods which are designated as the electrothermal method, the steam iron method, and the steam oxygen method.
- c) The Synthane process
- d) Hydrogasification
- e) Bi₂ gas process
- f) CO₂ acceptor
- g) Molten Carbonate process
- h) Ant-Gas process

It is within this context that interest in mining Northern Cheyenne coal has evolved.

Coal Reserves ¹⁷

The total coal reserves of the United States amount to more than three trillion tons divided into several ranks of coal and distributed in several fields. Of these total coal resources, some 50 percent of 1.5 trillion tons of bituminous coal and lignite are considered to be recoverable reserves. At current levels

of output and recovery, these reserves can be expected to last more than 500 years. From a practical standpoint for the near and medium term, we need only be concerned with recoverable resources rather than with total resources since these reserves clearly constitute an ample supply for the foreseeable future.

The principal coal fields of the contiguous United States can be roughly divided into four groups: anthracite region of eastern Pennsylvania, Appalachian bituminous fields, the central bituminous fields, and the western fields which contain bituminous and sub-bituminous coal and lignite. The bulk of our recoverable resources lie in the western fields. Almost half 667,518 million tons, are in Montana, North Dakota, and Wyoming. About 45 million tons, mostly in the western and central fields are considered to be strippable reserves. More than one-third of our reserves are low sulphur coal, in other words, less than one percent sulphur, concentrated largely in the west, Montana, New Mexico and Wyoming, with only West Virginia and eastern Kentucky in the east having any sizable low sulphur deposits. Most coal in the central fields, Illinois, West Kentucky, Missouri, and Ohio is high in sulphur coal having a content of more than two percent. Relatively little high sulphur coal is found in the west while the central fields have very little low or medium sulphur coal. The Appalachian fields are mixed.

It is obvious then that the sheer physical availability of coal will not be a limiting factor in its use as a fuel in the next few decades. There are other considerations, however, which may possibly constrain the effective supply of this coal to the nation's fuel consumers. Chief among these are the distribution of low sulphur coal reserves, transportation costs and problems, ownership of reserves, federal leasing policies, pollution and environmental legislation.

Until effective coal desulphurization or sulphur oxide stack gas cleaning technologies are developed to the point of being readily available, which is expected to happen by at least 1980, the availability of low sulphur coal will be of great concern to coal burning utilities subject to air quality sulphur emission standards. It is at this point that the coal found beneath the Northern Cheyenne Reservation begins to look extremely interesting to the electric utility industry. An example of this is that indicated by the coal lying within the Cheyenne Meadows area. It is the Knoblock Seam and contains .4 of one percent sulphur. Its burning characteristic is 8400 btu and the Montana Bureau of Mines and Geology estimates that the average recoverable tons per acre amounts to 88,500. The extent of this area where the coal might be profitably mined is approximately 21.2 square miles and covers about 13,560 acres. Estimated reserves are one billion two hundred million tons. The thickness of the coal seam varies from 30 to 65 feet.

Although at this point in the discussion we have dealt strictly with the use of coal for the generation of electricity, there is also the excellent potential of the conversion of coal to gas and/or oil. Indeed conversion of coal to environmentally acceptable fuel represents a key element in the nation's future energy picture. However, the consensus is that such conversion processes could not begin to be significant commercial production until the early 1980's. At the present time the current major objective of any conversion process as presently reflected in any technological program currently being undertaken is the production of synthetic gas of pipeline quality, which is about 1000 btu per cubic foot as a substitute for natural gas. A cooperative

four-year, 120 million dollar program between the government who is putting in 80 million and industry represented by the American Gas Association, input 40 million, initiated in 1971 is a major feature of the program.¹⁸

A coal gasification plant production of 250 million cubic feet of high btu gas per day would need from 5.0 to 7.5 million tons of coal per year depending upon the quality of the coal. For a 25 year operational life, this would mean 125 to 190 million tons of coal feed. Depending upon whether this coal would be deep mined or strip mined, this translates into an in-place resources requirement from 20 to 100 percent greater than these amounts.¹⁹

Additional considerations in coal conversion are the availability of water and the problems of waste disposal. A 250 million cubic feet per day gasification plant would require about one billion gallons per day of cooling water on a once-through basis. Since most conversion plants will probably be located in the west, water problems may well be a hindrance to the location of some plants. For the same size plant and on the basis of coal with 10% ash and 3% sulphur, some 1700 tons per day of ash and 520 tons per day of sulphur would have to be managed. Thus the entire problem is fraught with difficulty at both ends of the manufacturing process.²⁰

Industrial Viewpoint²¹

It has been indicated that U. S. energy demand has exploded but the search for new energy sources has not kept pace. Federal regulation has kept natural gas prices so low that the hunt for new wells has been discouraged and because gas was so cheap, it has been used wastefully. At the same time, anti-pollution efforts have curtailed the use of high sulphur coal and oil and boosted gas consumption. According to thinking within the industry, it is the government's own natural gas policies that lie at the root of the energy shortage. It is natural gas which has the greatest use within the power generation industry. The Federal Power Commission's controls on gas prices paid by interstate pipelines were slapped on nineteen years ago when gas was in surplus and prices were low. The controls have succeeded in keeping gas prices well below those of other fuel. Today the cost of gas at the well-head is still only 25 cents per million btu's while the cost of the energy equivalent of crude oil is 60 cents, heating oil 80 cents, and even the dirtiest of fuel has risen to 35 cents. These low prices for gas led to its wasteful use. Chief among those that are burning natural gas simply because it is cheap are the electric utilities. The low prices also discouraged drillers from even looking for gas. The decline in domestic gas and oil exploration has been precipitous from a high of 58,000 new wells in 1956 to a low of 27,000 in 1971.

Increasing reliance on imported fuel is what brought the energy shortage to the crisis stage. Last year the U. S. imported 28 percent of the petroleum that it consumed up from 18 percent in 1960 and paid out five billion for the imports. According to Chase Manhattan Bank estimates, imports will make up 50 percent of the nation's oil and cost 15 billion by 1975. If things had continued on the present course, imports could have risen to 30 billion by 1985.

Directly related to the rapidly rising payments for imports of petroleum is the shortage of oil refineries in the United States. Only six have been built in the last three years. The result is the U. S. refineries are not operating at near capacity and until more are built, most new U. S. oil imports will have to be refined products which cost more than crude. This in turn means that the oil industry's payments for imported products will far outstrip its income from foreign operations.

General Information - Coal Market Potential

22

The market for Montana-Northern Cheyenne coal is clouded with many difficult and unanswered questions. Constraints to the use of coal from this region include present and future air pollution and sulphur emission standards, degree of crisis over lack of energy, amounts of taxes levied against coal operations at the state level, costs of shipping, quality of the coal, and subsequent technological advances in the power generation industry, and last but not least, the outcome of current environmental legal battles over the Montana-Wyoming coal industry in general.

Prices for energy have not in many cases fully reflected production and social costs. Land, air and water pollution resulting from the production of fuels in the generation of electricity are costs of energy production but have not been properly covered in the prices energy consumers pay. The growing demands placed on air, water and in some cases land brought about efforts to allocate the use of such free goods by affecting the inclusion of the cost of their use including longer term environmental effects in the accounting of production. This process is reflected, for example, in sulphur emission standards and other clean air requirements for utilities and in mining regulations.

Such internalization of previously external and unaccounted for costs in the fuel producing and electric generating industries will undoubtedly raise the market price of energy in the United States. However, as the price of energy increases, total energy consumption is not expected to decline significantly. What will change, though, if the relative costs of different fuels change, is the composition of the fuel mix used to satisfy total energy demand. Coal's future share in the energy market will thus depend upon the extent to which its cost increases or decreases relative to the cost of competing available fuels.

As coal is made a more environmentally acceptable fuel through development of coal cleaning, stack gas cleaning, surface mining regulations, mine health and safety, etc., demand for coal is likely to be adversely affected because all of these add to the cost of coal and make it less attractive economically. These added costs might be offset to some extent by improved and more efficient production. In addition, the costs of oil and gas are also likely to increase through regulatory action and from supply pressures. Hence, some fuel switching may well occur but depending upon fuel availability and price competitiveness, the indications are the coal can be expected to remain competitive as energy prices generally rise in the future.

The greatest impetus to fuel switching, particularly for the near term, is the requirements for meeting federal and state air quality standards. It is, nevertheless, also important to recognize that other factors which alter relative fuel prices will affect the extent and rate of future fuel switching trends. Important among these are changes in the current mandatory import program, the current but changing framework of natural gas regulation, the application of commercial nuclear power, the enforcement of various environmental and health and safety regulations and possible modifications of tax and fiscal policies applicable to our energy resources.

COAL DEMAND

Coal currently represents about 20% of the total national energy use (about 68 quadrillion btus in 1969 and up to about 72 quadrillion btus in 1972). It is particularly vital to the electric utilities for which it provides 55% of the primary fuel. The importance of coal's relationship to the electric utility industry is further emphasized by the fact that electric generation accounts

for about 25% of total U.S. energy consumption and this percentage is expected to increase; i.e., our economy is becoming more and more dependent upon electricity.

If historic trends continue and coal's environmental problems are resolved, the principal growth market in the next 20 years will be the electric utility sector. By 1985, utilities could be expected to account for 75% of total coal consumption. In contrast, demand for coal for coking is likely to stay at about the present demand level since technological modifications in coke and steel manufacture are reducing the amount of coal and coke needed per ton of steel. Coal use in the retail sector might be expected to decline while the consumption by the manufacturing and mining sector will likely remain about the same.

Besides the utility sector, another area of significant potential and probably growth in coal demand is for conversion into cleaner fuels; i.e., synthetic gas, oil and char. Coal conversion eliminates for consumers many of the environmental problems associated with burning coal such as particulate and sulphur oxide emissions. The chemical process for converting coal to gas, while more developed than the technology of coal liquification, is still in the pilot stage. Commercial gasification plants are not expected to be in operation on any significant scale much before 1980. Liquification plants are expected to be still in the pilot stage in the early 1980's. An excellent example of this interest which strikes directly at the heart of the coal reserve on the Northern Cheyenne Reservation is the recent announcement by Northern Natural Gas and Cities Service Company and Peabody Coal Company to, at some time in the near future, develop and construct coal gasification plants on or near the eastern portion of the Northern Cheyenne Reservation. Another factor of significant importance is that posed by the transport situation of coal to consumers elsewhere in the United States. From 1966 to 1969, the average transportation costs of coal was relatively stable. This is attributed in part to the influence of low cost unitrain operation. In 1969, rail freight rates for coal increased 14%. In 1972, the railroads applied for additional increases of up to 16%, but these did not go into effect. Instead, the Interstate Commerce Commission allotted a 2.5% surcharge on total shipments.

The need for additional coal cars, barges or perhaps pipelines to move significantly increased amounts of coal over longer distances is also a consideration. A number of additional transport units and their scheduled requirements would have to be related to planned mined development and presumably would necessitate long term contracts in order to properly coordinate these requirements.

Markets for Montana Coal²⁴

The predominant use for coal in Montana at the present time is for fuel in the generation of electric power. Federal Power Commission forecasts an increase in power demand in Montana from 1,460 megawatts to 2,590 megawatts in 1980, and to 4,700 megawatts in 1990.²⁵ It is also apparent that Montana coal is an excellent prospect for export. There are three distinct reasons which make the strippable coals of Montana particularly attractive. First is the relative low cost of coal recovery. Information received from the State Department of Intergovernmental Relations indicates that the cost of a ton of coal mined in eastern Montana averages about two dollars per ton.*

The second reason is the low sulphur content of Montana coal which makes it attractive for burning as fuel in locales where the burning of high sulphur coal is prohibited. The low sulphur advantage offered by Montana coal may, however, diminish in years to come.

The third reason making Montana coal attractive for export is the fact that the coal is available in large quantities from relatively compact areas. Thus it is possible to write long-term contracts for large coal orders and fill the orders from operations in one general location. An example of this fact is that Decker Coal Co., Decker, Montana, recently signed a contract to deliver coal to a midwest utility over the next decade.²⁶

The one glaring handicap to utilization of Montana coal is its geographic location. It is far away from the nation's major coal consumption centers. Illinois, for example, the state with the largest demand for coal for power generation purposes, is about 900 miles from Montana's coal resources. Missouri and Wisconsin are about the same distance, Minnesota, Kansas and eastern Nebraska are only about 300 miles closer. Nevertheless, the following table will indicate at this time the amounts of coal being moved out of the state and relative costs of shipping.

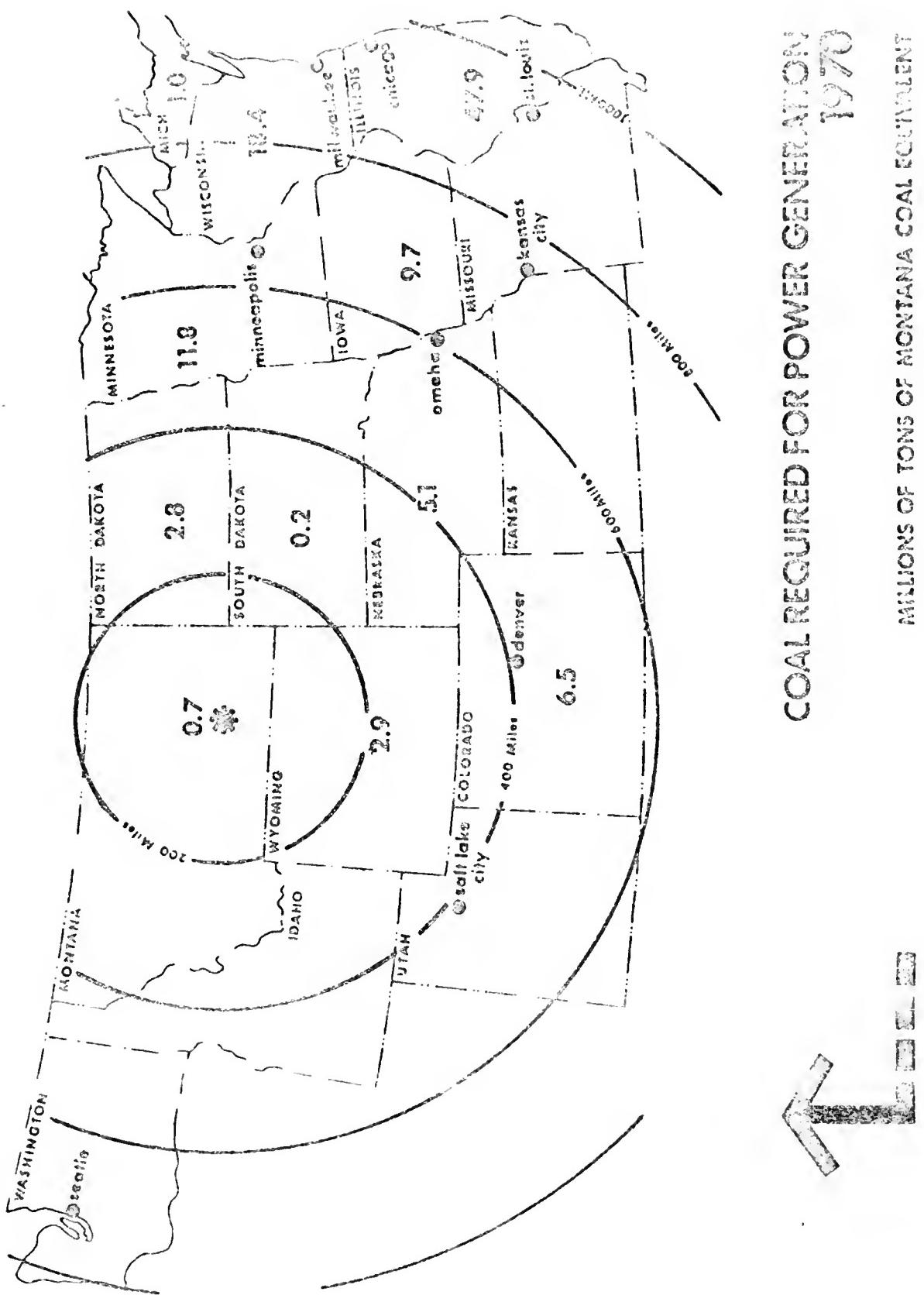
| <u>Origin</u> | <u>Destination</u> | <u>Rate/Ton</u> | <u>Annual Volume</u> |
|----------------------|--|-----------------|---|
| Colstrip | Northtown, Minn. | \$ 4.73 | 700,000 tons |
| Colstrip | Waukegan, Ill. and Hammond, Ind. | 8.38 8.60 | 900,000 tons 900,000 tons |
| Colstrip | Plains, Illinois | 8.99 | 900,000 tons |
| Colstrip | St. Paul, Minn. | 5.00 | 400,000 tons |
| Colstrip | Havana, Ill. and Powerton, Ill. | 8.91 | 900,000 tons from either Colstrip or Kleenburn |
| Kleenburn | Havana, Ill. and Powerton, Ill. | 5.84 | 900,000 tons from either Colstrip or Kleenburn |
| Kleenburn | Northtown, Minn. | 6.24 | 100,000 tons |
| Decker/ Kleenburn | Twin Cities, Minn. | 5.80 | 200,000 tons from either Decker or Kleenburn |

| <u>Origin</u> | <u>Destination</u> | <u>Rate/Ton</u> | <u>Annual Volume</u> |
|---------------|---|-----------------|---|
| Decker | Havana, Ill. and Carrollton, Ill. | 8.62 | 3,300,000 tons the first 12 months... 2,200,000 tons each 12 months thereafter |

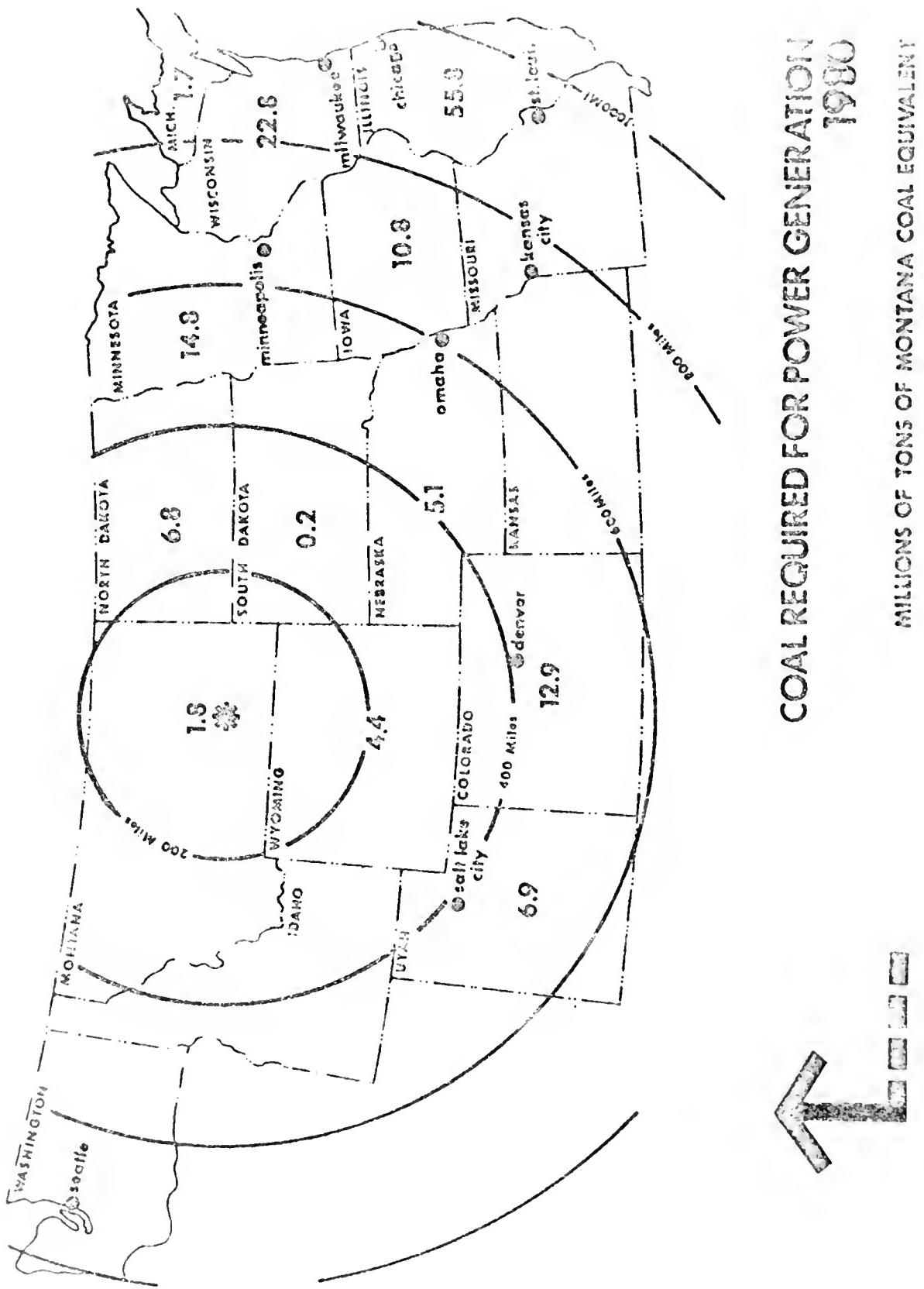
Source: Burlington Northern, Inc. Pricing Department
July 20, 1973

Note: Future price changes should take into consideration escalation clauses at about five to six percent annually predicated on wages and costs of materials index.

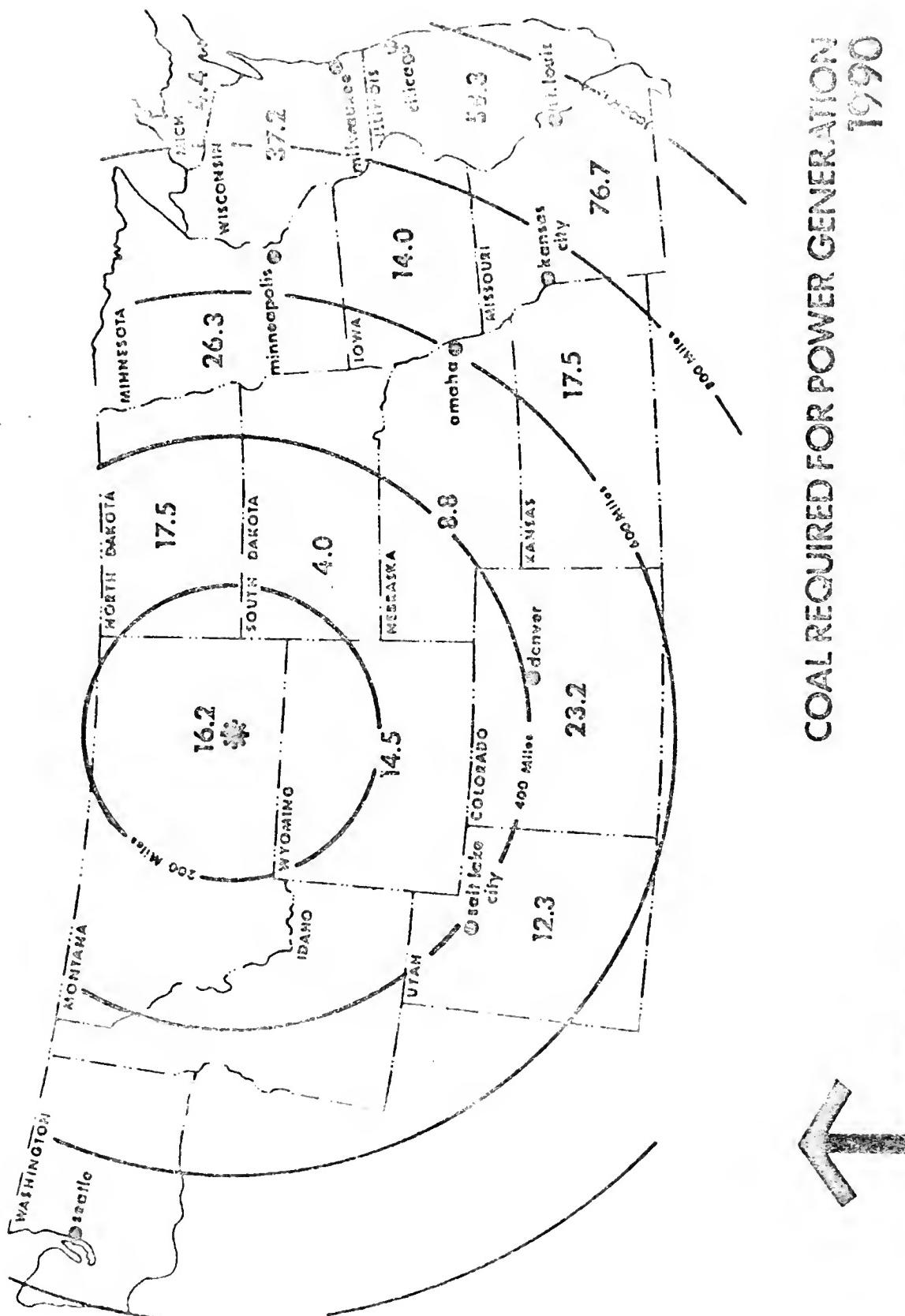
The following maps, developed from FPC Regional Advisory Reports, 1969, indicate the potential needs for coal within reasonable shipping distances, given the existing market structure.



SOURCE: Markets for Montana Coal - Cameron Engineers
Montana College of Mineral Science & Technology, Butte, Mt.
August 1970



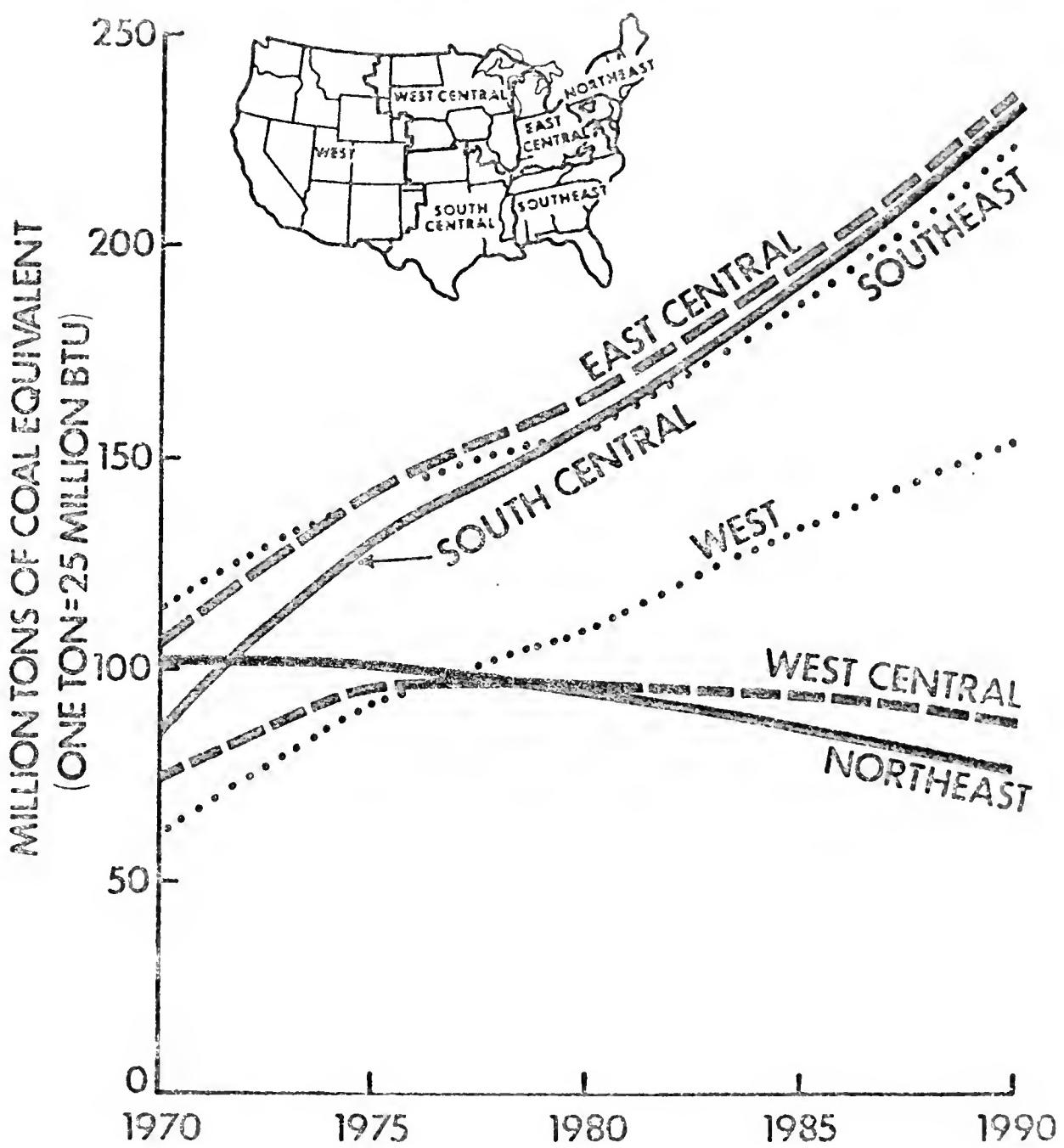
SOURCE: Markets for Montana Coal - Cameron Engineers
Montana College of Mineral Science & Technology, Butte, Mt.
August 1970



SOURCE:

Markets for Montana Coal - Cameron Engineers
Montana College of Mineral Science & Technology, Butte, Mt.
August 1970

PROJECTED FOSSIL FUEL REQUIREMENTS FOR ELECTRIC POWER GENERATION BY REGIONS



SOURCE: FEDERAL POWER STUDY - FEDERAL POWER COMMISSION, 1971

Potential markets to the south seem to be stifled by the existence of extensive coal reserves in Wyoming. Wyoming coal is not only similar in quality and costs to Montana coal, but is obviously closer to markets in Colorado and also to excellent rail connections. In actuality, Wyoming coal is perhaps a great deal cheaper considering the newly enacted tax structure placed upon the Montana coal mining industry.

The heating value of Montana coal is generally lower than those of the mid-western coals with which it must compete. In most cases, the ultimate selection of a coal for a particular use is based upon the amount of heat obtainable from one ton of the coal. Therefore, to satisfy a given heat requirement, Montana coal is generally required in greater tonnage than a typical midwestern coal. Montana coal is penalized by its low heating value in another way. The cost of rail transportation of coal is based on weight and it is fundamental that for a given weight more potential heat can be transported in a high heating coal than in a low heating value coal. In effect, the cost of moving low heating value coal includes the cost of moving the impurities which cause the low heating value. There may be ways to reduce the transportation costs of low heating value coal. For example, removing part of the water from Montana coal prior to shipping might result in a slightly lower price at its ultimate destination. At the present time, however, there is no specific type of treatment given any of the coal at the mine site.

Sulphur Limitations²⁷

Although the hazard of sulphur oxide emissions into the atmosphere is a controversial subject, various governments by legislation are limiting the sulphur content in coal burned. Restrictions vary from one locality to another and are changing rapidly. The restriction placed on sulphur and coal burned in power plants in Chicago is a good indication of what may be expected elsewhere in the near future. By mid 1970 the maximum sulphur content of fuel burned in power plants in the Chicago area was lowered to 1.8 percent. Starting January 1, 1972, the limit was one percent.

Coal mined in Illinois generally contains about three percent sulphur. Illinois' coal, therefore, has to be blended with low sulphur coal to comply with the current maximum. Starting in 1972, the blend consisted mostly of low sulphur coal. This represents a large potential use for Montana coal. Similar situations are expected to develop in other industrial centers in the midwest.

Coal Conversion²⁸

Another area of significance for Montana coal is the part that it will play in the production of synthetic fluid fuels. Fluid fuels, petroleum and natural gas currently account for about three fourths of the total energy supply in the United States. The demand for each is projected to increase while the rate of finding new supplies is decreasing. There is need to find supplemental sources for these important energy fuels. One of the possible solutions is to convert coal to synthetic petroleum and pipeline gas.

Methods for gasifying coal date back to the early 19th Century when coal gas was used to light areas of London. That gas, however, was not comparable in heating value to natural gas. Conversion of coal to a high heating substitute for natural gas has been accomplished during the past 30 years, but only in the last few years as a result of new processes has conversion approached economic feasibility.

Coal was converted to petroleum products during World War II. The methods used could be justified only by the conditions existing at that particular time. Once the conflict had ended, the costs were higher than for similar products made from natural petroleum. During the past ten years, methods have been developed to make gasoline and other petroleum products from coal at costs which seem to be competitive with those of products made from natural petroleum. Actually, these processes have been demonstrated only in a laboratory and several more years of development will be required before commercial plants could be considered.

Reserves of coal in the United States are many times greater than the combined reserves of oil and gas. Using the petroleum and natural gas proved reserves estimated by the American Petroleum Institute and the American Gas Association, the total can be represented by heating value of 509 quadrillion btu. The heating value for recoverable coal reserves is about 15,600 quadrillion btu, or over 30 times the energy content of oil and gas combined. The facts that coal can be converted into oil and gas and that it can be recovered in such prodigious quantities make it an attractive raw material for supplementing the fluid fuels.

Office of Coal Research²⁹

The Congress of the United States created the Office of Coal Research by passing Public Law 86-599 in July of 1960. The office was set up in the Department of Interior and was charged with finding new markets for coal by supporting contract research. On August 3, 1971, Secretary Morton signed an agreement with the American Gas Association for joint financing by industry and the federal government of a research program which will cost approximately 120 million dollars over a four year period. Three pilot plants will be in operation under the agreement with each testing a different process directed towards converting coal to quality pipeline gas. The Office of Coal Research is administering this overall research program and the American Gas Association is a joint sponsor.

Several important contracts have been let, a summary of three of them follows:³⁰

- A) Applied Technology Corporation, a subsidiary of International Systems and Controls briefly initiated a program with the American Gas Association/Office of Coal Research Fundings to develop its ATGAS process. AGA's appropriation for fiscal year 1973 for this program is 830,000 dollars.
- B) Columbus Laboratories of the Battelle Memorial Institute are conducting a program for the development of a coal gasification fluidized bed coal burner to provide the heat for steam gasification of coal.
- C) Pipeline gas from coal (December 20, 1963 to August 19, 1977) Bituminous Coal Research, Inc. The sum of the contract is 28,838,000 dollars. The principal objective of this research and development program continues to be development of the promising Bi gas process for production of high btu pipeline gas

from coal. Subsequent to these major programs there are many other lesser programs which are investigating various phases and parts of the overall coal gasification process. A list of some of these are as follows:

- 1) The Slurry Methanation Process, Kim Systems, Inc.
- 2) Carbon Dioxide Acceptor Coal Gasification Process, June 11, 1964 to October 12, 1973, Consolidation Coal Company, \$19,330,202.
- 3) Pipeline Gas by Hydro Gasification, July 20, 1964 to June 30, 1975 Institute of Gas Technology, American Gas Association funds \$11,877,077 U.S. Government funds \$22,224,153.
- 4) Electro Fluidic Coal Processing, May 11, 1965 to June 30, 1974, Iowa State University, \$426,960.
- 5) Multiple Catalyst Fluidized Reactions, November 27, 1968 to November 26, 1973, University of Wyoming Natural Resources Research Institute, \$613,700.

It should be stressed that these projects are but a few of a long list of projects by various corporations across the country and all designed towards investigating and making the coal gasification process become a reality within the next few years.

A typical coal gasification process in its simplest form is the combination of coal and water to form carbon monoxide, hydrogen and some methane. The coal is ground and pretreated to destroy caking properties. After being devolatilized and hydrogasified to produce methane directly, char is then gasified to produce synthesis gas for hydrogasification. The gas leaving the gasifier contains ash, carbon and tars which are removed prior to shift conversion. Gas is fed to the shift converters in sufficient quantities to adjust the hydrogen to carbon monoxide ratio to approximately three. The gas is then purified to remove CO₂ and sulfur compounds. The gas, mostly CO and H₂ is methanated to produce pipeline quality gas.

This process may seem easy but has proven to be extremely difficult. The only process that has reached the commercial stage is the Lurgi Pressure Gasification Process. The first generation gasification plants that have been announced all plan on using the Lurgi process.

Several other processes are in varying stages of development. Among these are HYGAS (Institute of Gas Technology), BI-GAS (Bituminous Coal Research, Inc.), Synthane (U.S. Bureau of Mines), Hydrane (U.S. Bureau of Mines), Stirred Fixed-Bed Producer (U.S. Bureau of Mines), CO₂ Acceptor or Concol Synthetic Gas (CSG) and Molten Carbonate (M. W. Kellogg).

Coal Liquefaction

Technology for coal liquefaction has been available for over 30 years but economic conditions have been the major constraint for commercial development in the United States. Coal liquefaction requires more technological advances and greater lead time than coal gasification.

The three basic principals for coal liquefaction are (1) a mild non-catalytic hydrogenation, solvent extraction technique by which the ash and sulphur is removed, (2) a catalytic hydrogenation process in which mostly liquid synthetic petroleum products are produced, and (3) destructive distillation which produces char and liquid fuels as by-products.

Some of the current research efforts on coal liquefaction include the following projects. Solvent Refined Coal (The Pittsburgh and Midway Coal Mining Company - SRC), Cersol Synthetic Fuel or Project Gasoline (USI), H-Coal (hydro-Carbon Research, Inc.), Char, Oil, Energy Development (COED, FMC Corporation), and Seacoke (Atlantic Richfield Co.).

A recent announcement to the Northern Cheyenne Tribal Council by Peabody Coal Company, Northern Natural Gas, and Cities Service Corporation indicates that perhaps coal gasification is near enough to be considered. Because of the immensity of this type of project, the following data is included as general information.

A) Plant Physical Requirement:³¹

Analysis of plant size and costs have generally been based on the production of 250 million cubic feet of pipeline gas in 24 hours, but there is no reason why the plants could not be larger or smaller. However, the physical requirements for a plant of this size while not fully described are approximately known.

1) Plant Site

The area for a plant of this size probably should not be less than 100 acres. This would not all be taken up by the process equipment, but would provide a protective border around the processing area.

The location must be based on the availability of two major raw materials, coal and water. Coal requirements for a plant producing 250 cubic feet of gas per day will be about 16 to 18,000 tons, slightly less than two 100 car trainloads per day. In many respects the problems of selecting sites for these plants will be similar to those of selecting sites for utility power plants.

The plants normally will be near the mine, and coal transportation may be made by short haul rail, barge, truck and conveyor belts or other methods. It is assumed that a large supply of coal, 30 to 90 days, will be maintained in storage to guard against interruption of service. If coal is to be brought some distance by rail and loading equipment must be provided for unit train, assuming 10 percent ash and three percent sulphur, there will be about 1700 tons of ash and 520 tons of sulphur to remove each day, provisions must be made to meet these disposal problems. Water requirements for the plant will be very large. On the basis of once-through cooling, requirements would be approximately one billion gallons per 24 hours for a plant producing 250 million cubic feet of gas per day.

2) Coal Mine³²

To furnish the coal required for a single 250 million c.f. per day plant it is assumed that when the plant is built a suitable supply will be dedicated to its use either through ownership of the coal or contractual arrangements.

The plant is scheduled to operate 330 days per year allowing 30 days for the normal chemical plant turn-around. Yearly demand then will be about six to eight million tons. For 20-year life, the coal requirements would be about 150 million tons and would amount to 300 million tons in the ground since recovery is on the order of 50 percent in underground mining and somewhat higher for strip mining.

Coal mining operations normally run about 220 to 240 days per year so the mine output would need about 30,000 tons per day which is a large mining operation. This output would not create problems for strip mining since the equipment is large and manpower requirements are small even for large tonnages.

In a strip mine, the output per man day depends greatly on the thickness of overburden and coal seams. Daily output for the United States as a whole runs from about 30 to 90 tons per man day, however, a highly efficient operation can approach 150 tons per day, per man. In order to use this high cost mining equipment as effectively as possible, operation is on the basis of 300 days per year. Under such conditions, an output of about 27,000 tons per day of mine operation would be needed. Actual manpower figures have been developed as a result of a conversation with El Paso Natural Gas, El Paso, Texas. The plant concerned is in the Four Corners region and will generate at the start 250 million cubic feet of gas. During the construction phase a high number of approximately 3,000 construction employees will be on the site. When the plant is brought on line full time, there will be approximately 941 full time people with a 12 million dollar payroll. At the present time costs are estimated to be 340 million dollars for the plant and 60 million dollars for a mine. The output of the mine will be 25,000 tons per day. This then gives an indication of the magnitude of any operation which could be contemplated either on or adjacent to the Northern Cheyenne Reservation.

In any discussion about the potential quantity of coal to be mined on the Reservation, whether for out-of-state shipment or nearby use in either thermal generation or coal gasification plants, the ability to sell the coal is of the utmost importance. The market for Northern Cheyenne coal depends greatly upon a coal company's ability to obtain a contract to supply a public utility in another area. Several of the factors governing the coal's marketability are quality and cost (both mining and shipping costs), and applicable taxes at point of origin.

Taxes ³³

At the present time, the tax structure on mining operations in Montana are somewhat higher than in adjacent states. Decker Coal Company made the following observations at the 43rd Session of the Legislature while protesting the coal tax bills being introduced.

Montana tax impact (before new legislation):

| | |
|-------------------|-----------------|
| Property tax | 1.8¢ per ton |
| Net proceeds | 22.2¢ " " |
| Coal mine license | 10.0¢ " " |
| Corporate license | <u>4.7¢ " "</u> |
| Total | 38.7¢ |
| Royalties | 12.1 |
| Grand Total | 50.8¢ |

Additional tax impact

| | | |
|------------------------------|------------|--------------|
| Additional coal mine license | 28.0¢ | 28.0¢ |
| H.B. 97 | 1.9¢ | |
| H.B. 517 | .6¢ | |
| H.B. 165 | .1¢ | |
| Loss of reclamation credit | <u>.5¢</u> | |
| Total | | 3.1¢ |
| Royalty revenue | 12.1¢ | <u>12.1¢</u> |
| Grand Total | | 81.9¢ |

Thus, the Montana coal had a tax increase of 31.1 cents per ton of coal after 1973 legislation enacted. Further indicated was that the tax impact per ton of coal in Wyoming (which has a higher BTU rating) was as follows:

Big Horn Coal Co. (1972) 17.6¢
Rosebud Coal Co. (1972) 19.2¢

The impact of the net proceeds tax on the Northern Cheyenne royalty payments will be generally as follows:

Elementary District:

District #6 - Lame Deer and District #32 - Ashland. These are funded entirely by federal funds. There is a slight mileage rate applied for transportation and bonds:

| | |
|-----------------|--------------------------|
| Transportation | 9.04 mills |
| Bond Retirement | .75 |
| | <u>12.79 mills total</u> |

High School District:

Colstrip-Birney #3, Lame Deer #6, Ashland #32 and Elementary #19.

| | |
|----------------|-------------------------|
| General Fund | 5.21 |
| Transportation | .83 |
| Bus Reserve | .55 |
| Bonds | <u>1.94</u> |
| | <u>8.53 mills total</u> |

21.32 mills grand total

Based upon the existing mileage rates, the effect on the royalty payments will be .003 cents per ton. Therefore, instead of 17.5 cents per ton royalty, the Cheyenne will receive only about 17.1 cents.

The point is that the state is receiving almost 40 cents from net proceeds taxes on coal mining enterprises and one wonders if these funds will be returned to the local districts from whence they came. If this is so, given a figure of five million mineable tons per year, the monies returned to the local districts should be considerable.

The effect of the Montana tax structure had the following effect on a Montana coal company bidding history:

| | <u>Buyer</u> | <u>Successful Bidder</u> | <u>Location</u> | <u>Per/Ton</u> |
|----|-----------------------------|--------------------------|-----------------|----------------|
| 1) | Public Service of Colorado | AMAX | Wyoming | 1.75 |
| 2) | Southerland Nebraska PUD | AMAX | " | 1.75 |
| 3) | Oklahoma G & E | Atlantic/ Richfield | " | 1.84 |
| 4) | Southwestern Electric Power | AMAX | " | 1.85 |

Therefore, because of higher taxes on Montana coal, some might expect that the market for such coal has narrowed. It probably has, but the overall demands for energy in the midwest will soon push this situation once again into an active position. In fact, recently Decker Coal Company announced the signing of a long-term contract with a midwest utility, notwithstanding the new tax burden. It can probably be said, with some degree of certainty that the increased costs of mining will be passed on to the utility who will then pass increased energy supply costs to the consumer. Essentially, as long as the energy is at a high demand, the user will bear the cost of supply.

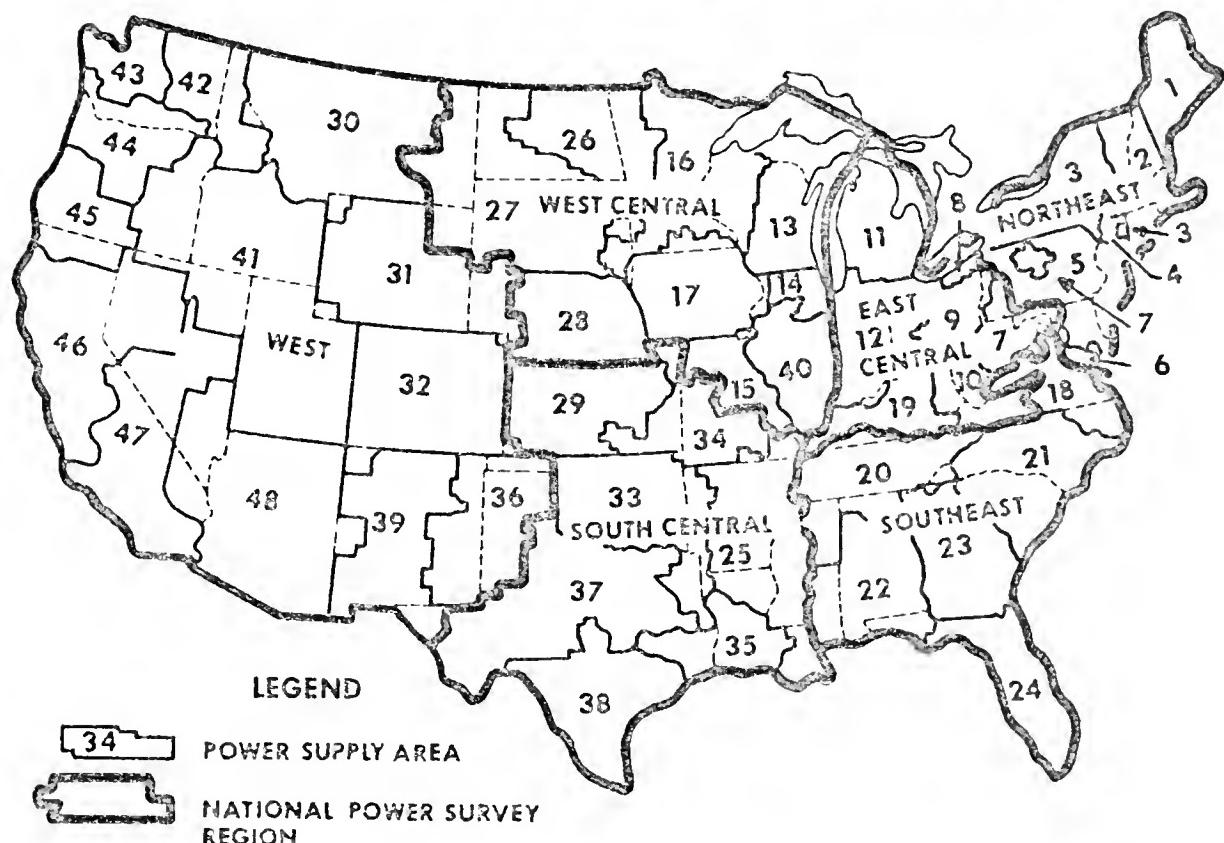
At the present time, most of the coal exported from Montana is bound for the west central region. This area is comprised of the following states: North and South Dakota, Nebraska, Minnesota, Iowa, Missouri, Illinois, and Wisconsin. The existing and projected electric utility requirements for this area are found in the following chart:

| | Actual | | Estimated | | | |
|--------------|--------|------|-----------|------|--------|-------|
| | 1970 | 1980 | 1990 | | | |
| | Energy | Peak | Energy | Peak | Energy | Peak |
| 13. | 26.1 | 4.6 | 50.5 | 8.5 | 91.3 | 15.3 |
| 14. | 50.3 | 10.1 | 105.0 | 19.5 | 195.0 | 37.0 |
| 15. | 19.5 | 4.4 | 43.8 | 9.7 | 85.1 | 18.8 |
| 16. | 24.7 | 4.6 | 52.8 | 9.2 | 105.0 | 18.4 |
| 17. | 18.4 | 3.8 | 38.1 | 7.2 | 74.6 | 13.1 |
| 40. | 22.9 | 4.3 | 44.3 | 8.1 | 79.6 | 14.0 |
| 26. | 4.3 | 0.7 | 8.4 | 1.8 | 16.1 | 3.4 |
| 27. | 4.9 | 0.9 | 9.5 | 1.9 | 18.3 | 3.7 |
| 28. | 7.4 | 2.3 | 18.1 | 4.4 | 33.3 | 8.1 |
| West Central | 180.5 | 35.7 | 370.5 | 68.9 | 698.3 | 128.6 |

Energy in Million NWh; Peaks in thousand MW.

Source: 1970 National Power Survey, Federal Power Commission, Part I.

NATIONAL POWER SURVEY REGIONS AND POWER SUPPLY AREAS



SOURCE: FEDERAL POWER STUDY

Although the power requirements shown here are for just a single region, there is likelihood that exportation of coal or electric power might also go to the west coast or to the northwest. Some of the governing factors concerning coal shipments are the inherent costs in shipping the coal by rail, or the costs of construction of power lines to send the power out from thermal generation plants located within the coal fields. In the case of coal shipments, these costs can only be determined when a coal contract is being consummated, for distance, length of contract, amount of coal to be shipped, and escalation clauses are all pertinent factors governing ultimate costs.

The fact of shipping energy by transmission lines to far-off consumers has potential as on-reservation mine mouth thermal generation plants are certainly possible. The development of the costs of transmission corridors is a science within itself, and is not within the scope of this general report.

Further consideration to the cost structure of Northern Cheyenne coal is that related to the existence and strictness of strip mine reclamation laws. At the present time, Montana has perhaps one of the strictest strip mine laws in the entire country, but however, because of the existing governmental structure, the Montana State law essentially has no effect on the Northern Cheyenne Reservation. In order to maintain some degree of protection for Northern Cheyenne land, it is considered imperative that some sort of environmental control on mining is necessary to protect the Northern Cheyenne lands. This might be done in any one of several ways. First, the Northern Cheyenne Tribe could take the necessary legislative steps to ultimately allow Montana strip mining regulations to be enforced on reservation lands by the state. Secondly, the Northern Cheyenne Council could take steps and establish their own legislation whereby strip mining laws and regulations are established on the Reservation by the Indians themselves. Thirdly, there could very well be a combination type of an agreement incorporating what is thought to be the best benefits of both of the above suggestions.

- In summary, the following issues relate primarily or secondarily to the Northern Cheyenne coal situation. First, the near term impact of air pollution control requirements, particularly those related to control of sulphur dioxide discharges to the atmosphere; second, control of surface mining; third, expansion and acceleration of coal related research development and demonstration; fourth, policies regarding oil imports and natural gas pricing and regulation; fifth, coal leasing policies; sixth, water availability and rights.

Existing Activity³⁴

At the present time the permit and lease holder's operations are at a standstill on the Reservation. The major reason for this is that the Northern Cheyenne Tribal Council passed a resolution on March 5th, requesting the Secretary of the Interior to void all existing permits and leases. The text of this resolution follows:

Res. #132 (73)

A RESOLUTION OF THE NORTHERN CHEYENNE TRIBAL COUNCIL RELATING TO THE CANCELLATION AND TERMINATION OF ALL EXISTING COAL PERMITS AND LEASES ON THE NORTHERN CHEYENNE RESERVATION.

WHEREAS, There now exists between the Northern Cheyenne Tribe and various coal companies, leases and permits of our coal assets that are not in compliance with 25 CFR 177; (See attached detailed letter.) and

WHEREAS, the Northern Cheyenne Tribe does not know of any authority that allows any Interior Department Official to disregard the requirements of 25 CFR 177; and

WHEREAS, the Northern Cheyenne Tribe does not recognize the existing permits and leases as binding on the Northern Cheyenne Tribe due to the failure of the Bureau of Indian Affairs to comply with 25 CFR 177;

THEREFORE BE IT RESOLVED, by the Northern Cheyenne Tribal Council that officials of the Area Office and Officials of the Central Office of the Bureau of Indian Affairs and the Secretary of the Interior are hereby directed by the Northern Cheyenne Tribal Council to withdraw the departments approval, and terminate and cancel all existing Coal Permits and Leases made and entered into between the Northern Cheyenne Tribe and all permittees and lessees, whereby permits and leases have purportedly authorized and empowered permittees and lease holders to explore for and mine coal on the Northern Cheyenne Indian Reservation.

PASSED, ADOPTED AND APPROVED the Northern Cheyenne Tribal Council by (11) votes for passage and approval and no votes against passage and approval this (5th) day of March, A.D., 1973.

s/ Allen Rowland

Allen Rowland, President
Northern Cheyenne Tribal Council

ATTEST:

s/ Erma Fisher

Erma Fisher, Secretary
Northern Cheyenne Tribal Council

The Secretary of the Interior is currently preparing a reply to the Tribe's request, but it is estimated that a protracted legal situation will develop, regardless of the nature of the forthcoming reply. (The reasons behind this Tribal action are contained within the appendix.)

In effect, the Tribal Council's action brought to a halt any exploration or further plans to implement any mining operations. Peabody Coal and Northern Natural Gas Company are holding all plans in abeyance, as is Amax Coal Company, who had indicated an interest in going to lease.

At the present time the following companies and agents have these subsequent amounts of land under lease and permit for either exploration, sale, or actual mining operations:

| <u>Permittee</u> | <u>Acreage</u> |
|----------------------------|------------------|
| Peabody Coal Company | 55,398.99 |
| Bruce L. Ennis | 16,215.73 |
| Norsworthy & Reger, Inc. | 33,417.10 |
| Meadowlark Farms, Inc. | |
| Amax Coal Company | 71,547.45 |
| Consolidation Coal Company | 23,399.05 |
| Chevron Oil Company | <u>27,794.99</u> |
| Total Acres | 227,733.31 |

The Tribe has received the following payments from the winning bidders from the current permit holders.

| <u>Permittee</u> | <u>Payment</u> |
|----------------------------|-------------------|
| Peabody Coal Company | 21,057.96 |
| Bruce L. Ennis | 20,000.00 |
| Norsworthy & Reger, Inc. | 90,000.00 |
| Meadowlark Farms, Inc. | |
| Amax Coal Company | 1,780,000.00 |
| Consolidation Coal Company | 160,000.00 |
| Chevron Oil Company | <u>175,000.00</u> |
| Total | \$2,246,057.96 |

Source: Bureau of Indian Affairs

NORTHERN CHEYENNE RESERVATION

COAL LEASES

APPROVED: December 3, 1970

TERM: 10 YEARS

| <u>CONTRACT NO.</u> | <u>LESSEE</u> | <u>LOCATION</u> | <u>ACREAGE</u> |
|---------------------|----------------------|--|---|
| 14-20-0257-897 | Peabody Coal Company | T. 2 S., R 43 E. T. 2 S., R 44 E. T. 3 S., R 43 E. T. 3 S., R 44 E. | 6,731.78 495.87 4,029.10 <u>1,689.32</u> |
| | | Total: | 12,946.07 |
| 14-20-0257-899 | Peabody Coal Company | T. 2 S., R 42 E. | 479.97 |
| 14-20-0257-900 | Peabody Coal Company | T. 2 S., R 41 E. | 1,725.91 |

| CONTRACT NO. | LESSEE | LOCATION | ACREAGE |
|---------------|----------------------|----------------------------|-----------|
| 14-20-0257 | Peabody Coal Company | T. 2 S., R. 42 E. | 214.60 |
| | | Sec 11 | 2,490.51 |
| | | Total | 2,705.11 |
| 14-20-0257-2 | Peabody Coal Company | T. 3 S., R. 42 E. | 139.91 |
| 14-20-057-305 | Peabody Coal Company | T. 3 S., R. 42 E. | 179.95 |
| | | Total acreage under leases | 16,035.05 |

NORTHERN CHEYENNE RESERVATION

| | PERMITTEE | LOCATION | ACREAGE |
|---------------------|------------------------|---|------------|
| Tract #1 - Sale #2 | Peabody Coal Company | T. 2 S., R. 38 E. T. 3 S., R. 38 E. | 6,007.44 |
| Tract #2 - Sale #2 | Peabody Coal Company | T. 2 S., R. 39 E. T. 2 S., R. 39 E. | 21,850.58 |
| Tract #3 - Sale #2 | Peabody Coal Company | T. 3 S., R. 38 E. T. 3 S., R. 39 E. | 27,530.97 |
| Tract #1 - Sale #3 | Bruce L. Ennis | T. 2 S., R. 40 E. | 16,215.73 |
| Tract #5 - Sale #3 | Horseworthy & Reyer | T. 2 S., R. 44 E. T. 3 S., R. 44 E. | 14,001.66 |
| Tract #9 - Sale #3 | Horseworthy & Reyer | T. 3 S., R. 43 E. | 14,415.46 |
| Tract #13 - Sale #3 | Meadowlark Farms, Inc. | T. 4 S., R. 41 E. | 23,042.45 |
| Tract #15 - Sale #3 | Meadowlark Farms, Inc. | T. 4 S., R. 43 E. T. 5 S., R. 43 E. | 20,032.00 |
| Tract #16 - Sale #3 | Bruce L. Ennis | T. 5 S., R. 39 E. T. 5 S., R. 39 E. | 14,723.00 |
| Tract #17 - Sale #3 | Con. Mountain Fuel Co. | T. 5 S., R. 40 E. | 23,323.05 |
| Tract #18 - Sale #3 | Meadowlark Farms, Inc. | T. 5 S., R. 41 E. T. 5 S., R. 42 E. T. 5 S., R. 42 E. | 27,545.14 |
| | | Total: | 267,773.31 |

COAL EXPLORATION AND LEASE

| | | |
|---------------------------|-------------------------------------|--------------------|
| NORTHERN PACIFIC RAILROAD | <input type="checkbox"/> | MINERALS OWNED |
| PEABODY COAL CO. | <input checked="" type="checkbox"/> | LEASE |
| PEABODY COAL CO. | <input checked="" type="checkbox"/> | PERMIT |
| CONSOLIDATION COAL CO. | <input type="checkbox"/> | |
| CHEVRON OIL CO. | <input type="checkbox"/> | PERMIT |
| MEADOWLARK FARMS | <input type="checkbox"/> | A MAX COAL COMPANY |
| NORSWORTHY AND REGER | <input type="checkbox"/> | |
| BRUCE L. ENNIS | <input type="checkbox"/> | |

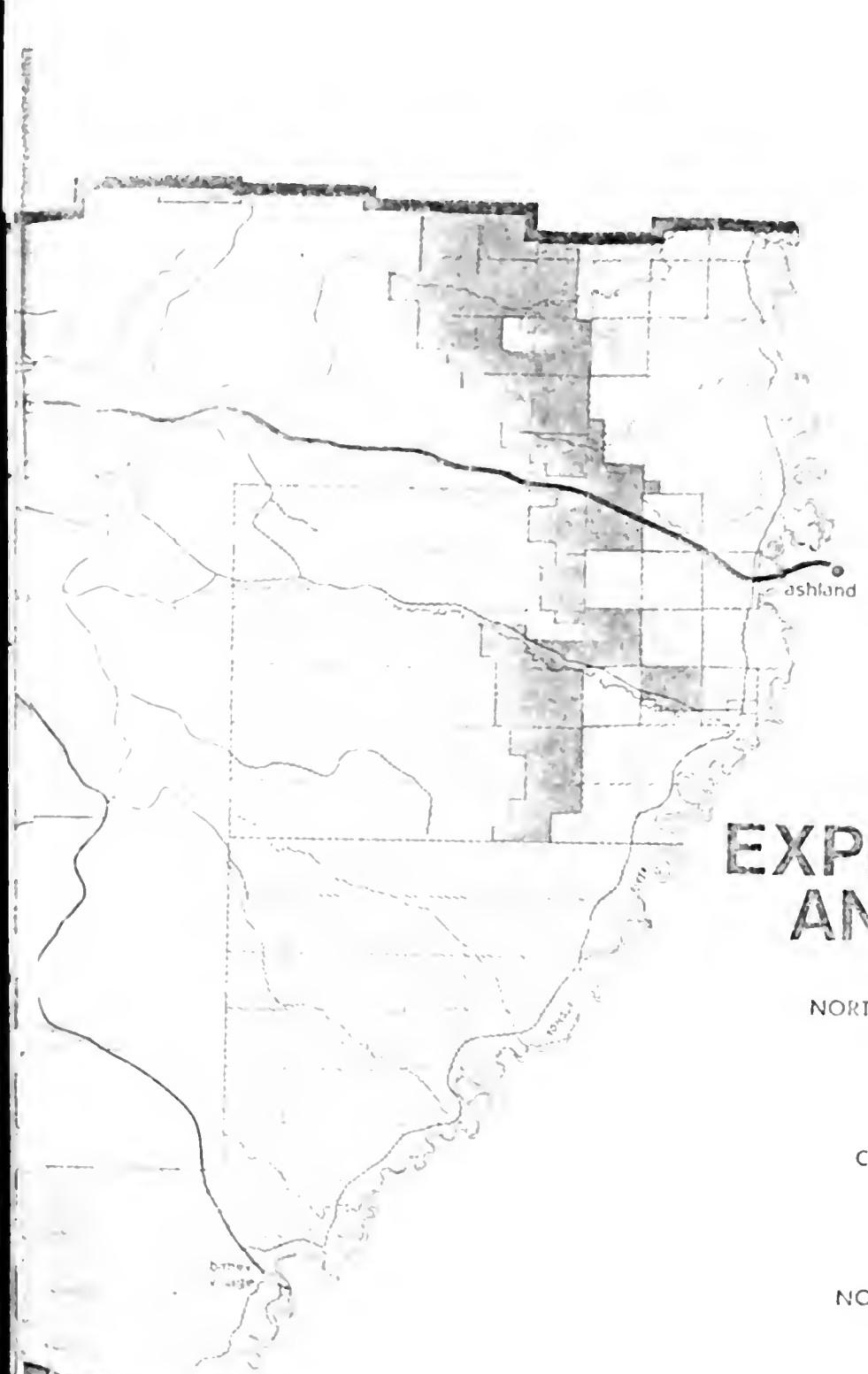
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prepared by
WIRTH ASSOCIATES
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associate consultant
INTERMOUNTAIN PLANNERS
billings, montana



NORTHERN CHEYENNE PLANNING STUDY
socio-economic analysis of potential coal development



COAL EXPLORATION AND LEASE

| | |
|---|-------------------------------------|
| NORTHERN PACIFIC RAILROAD MINERALS OWNED | <input type="checkbox"/> |
| PEABODY COAL CO. LEASE | <input checked="" type="checkbox"/> |
| PEABODY COAL CO. | <input type="checkbox"/> |
| CONSOLIDATION COAL CO. | <input type="checkbox"/> |
| CHEVRON OIL CO. | <input type="checkbox"/> |
| MEADOWLARK FARMS <small>AMAX OIL COMPANY</small> | <input type="checkbox"/> |
| NORSWORTHY AND REGER | <input type="checkbox"/> |
| BRUCE L. ENNIS | <input type="checkbox"/> |

PERMITS

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PLANNING STUDY
Development

On December 3rd, 1970, the Northern Cheyenne Tribal Council approved a coal lease for the Peabody Coal Company. This lease runs for ten years and encompasses a total acreage of some 16,035.5 acres. At the time, a bonus payment in the amount of \$11,296 was made to the Tribe by Peabody Coal Company.

The actual implementation of mining and development plans by the various companies presently involved in the Reservation lands will have a profound effect upon the Northern Cheyenne people and the physical structure of the Reservation. This effect will manifest itself by the formation of various problem areas created by the influx of people and the availability of employment and subsequent elevated living standards. These areas may be summarized as:

- Housing
- Increased Income
- Service and Utility Needs
- Law and Order
- Education (elementary and high school)
- Education (vocational)
- Health
- Governmental Services
- Circulation (roads and highways)
- Social
- Cultural
- Legal - Jurisdictional

These various areas must all receive some attention by the Tribal Council to determine what major policy decisions might be made concerning effective measures of control relating to these various factors.

Minerals Leasing and Responsibility

All leasing of minerals on the Reservation is done under the Code of Federal Regulations Title 25, Part 171-172. These regulations cover in detail the various requirements. No section of the code applies special regulations to the Northern Cheyenne Reservation as is done for some other reservations. The Northern Cheyenne Tribal Council may impose new rules, however.

The U.S. Geological Survey is responsible for administering and enforcing federal mining leases. The Bureau of Mines has the function of making inspections for the safety and welfare of miners under the regulations. Such regulations appear on the Code of Federal Regulations Title 30, Chapter 11, Geological Survey Part 271, Mining and Safety Regulations Governing the Mining of Metallic and Non-Metallic Minerals.

Requests for leases are to be submitted in writing to the Secretary of the Interior who receives the lease subject to approval by the Tribal Council and the Secretary of the Interior or his authorized representative. Leases are for a period of not longer than ten years and are renewable upon such terms and conditions as the Secretary of the Interior may prescribe with the concurrence of the Tribal Council.

Leases are subject to both rental and the acreage leased and a royalty on production. Rentals for any calendar year are credited against royalties for that year. On allotted lands, mineral rights are reserved to the Tribe for a period of 50 years.

There has been very little leasing of minerals on the Reservation other than

the oil and gas leases which have been mentioned.

Consequently, leasing has not been an important source of income for the Tribe.

LAND OWNERSHIP

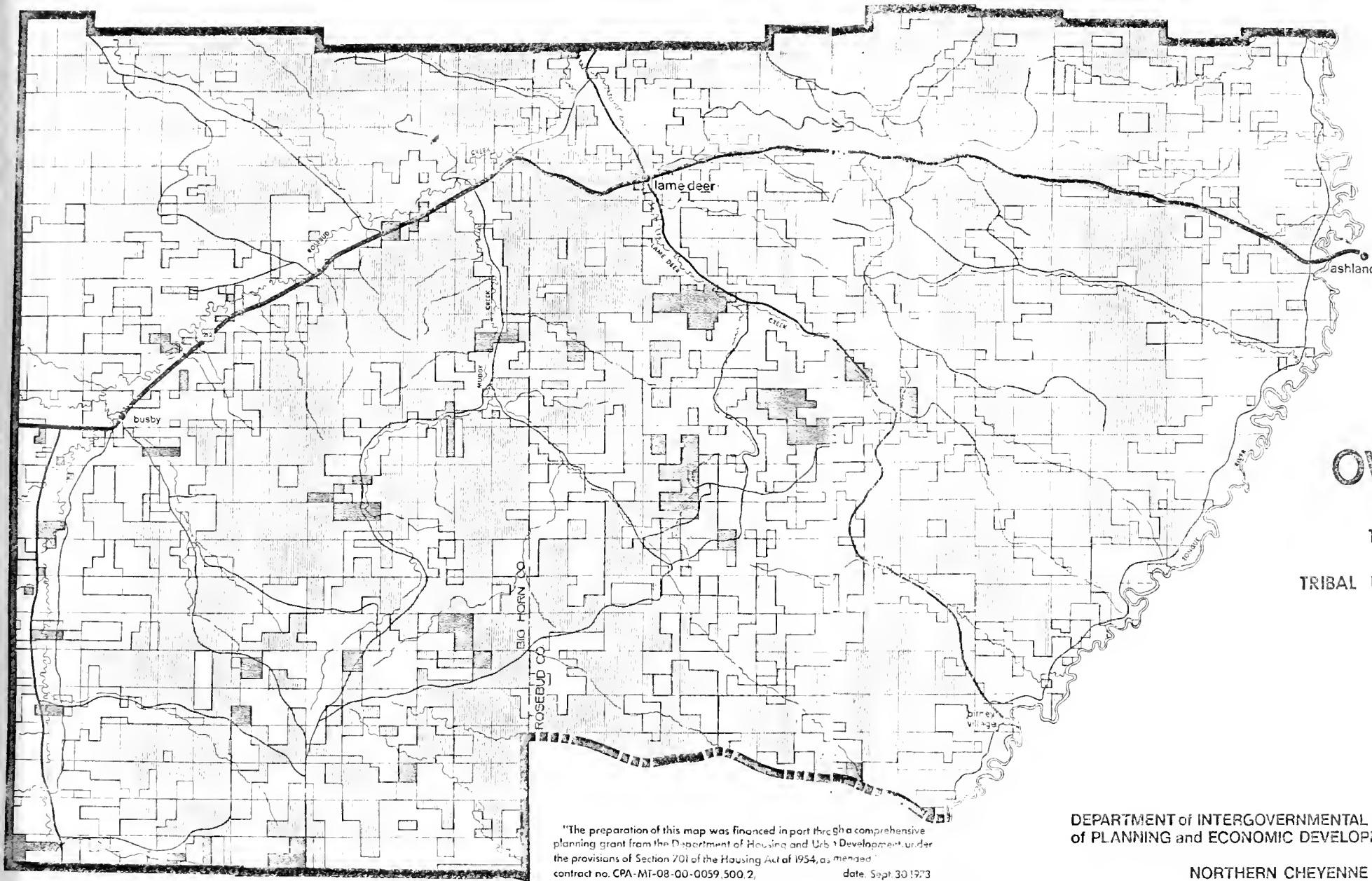
There are several types of land ownership categories on the Northern Cheyenne Reservation. They are: trust ownership, fee lands, public domain, Tribal undivided interest, and individual trust lands. Although some of the variations between these differences are small they are nonetheless extremely important in the eyes of the courts and in Reservation law. An important factor to realize at the onset is that there are essentially two estates in land ownership everywhere on or off Indian reservations. One is title to the surface of the land and the other is title to the minerals beneath the land. In most cases the individual deed will state which type of ownership it is, and when one obtains a patent one only gets simple title to the surface. On Indian reservations the land is held in trust for the Indian by the government. The legal title to the lands are held by the government but the Indian has full possessory rights in use of the property. He can use his property in anyway he sees fit, but he may not alienate it or sell it without the approval of the Secretary of the Interior. Essentially there are two types of trust lands; those that are owned by the Tribe and those that are owned by individuals. In the case of individually owned trust land most of this has resulted from various allotment acts in which individual Indians were given varying acreages on which to make a living early in the century.

Public domain lands are those lands which still remain in the ownership of the government, which is synonymous with saying public ownership or public domain.

In the case of Tribal undivided interest land the only way the Tribe gets an undivided interest in land is to purchase that land from the heir to the allotted lands. The Tribe purchases small fragments of interest with the hope usually that at a later date they will be able to accumulate full hundred percent ownership of the land. These are allotted lands or lands that one Indian purchases from another and for all practical purposes they are held in individual ownership.

In some cases there are lands on the Northern Cheyenne Reservation which are owned by non-indians, however, these are owned in fee patent and the original title deeds made it impossible to withdraw these lands because they did not have them to sell; they were held in trust for the Tribe for a 50 year period. A recent act of Congress has extended this into perpetuity.

There is a current legal battle shaping up in Federal District Court in San Francisco where the allottees are claiming that they own the mineral rights as well as the surface rights of the land. This case is briefly discussed elsewhere in this study. Another matter of consideration is that when a mining company comes in and exercises its rights to obtain the minerals beneath



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socio-economic analysis of potential coal development



LAND OWNERSHIP

TRUST TRIBALLY OWNED

TRIBAL UNDIVIDED INTEREST

FEE LANDS

INDIVIDUAL TRUST

PUBLIC DOMAIN

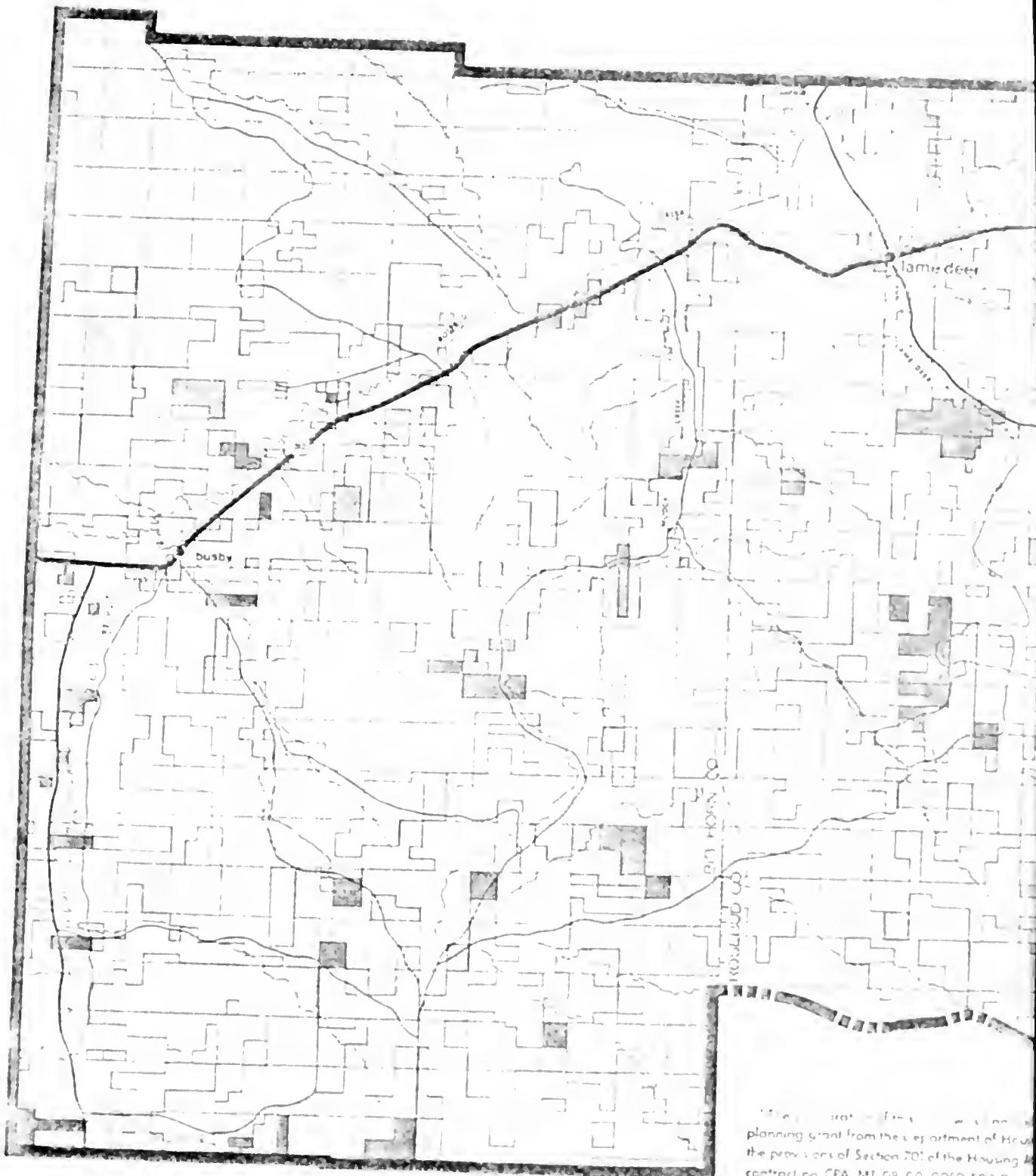
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NORTHERN CHEYENNE

socio-economic analysis of potential

POTENTIAL COAL PRODUCTION IMPACT

PRODUCTION AREA APPAS

MINERAL OWNERSHIP APPAS

EXPLORATION AREAS

LAND OWNERSHIP

TRUST (TRIBALLY OWNED)

TRIBAL UNDIVIDED INTEREST

FEES LANDS

INDIVIDUAL TRUST

PUBLIC DOMAIN

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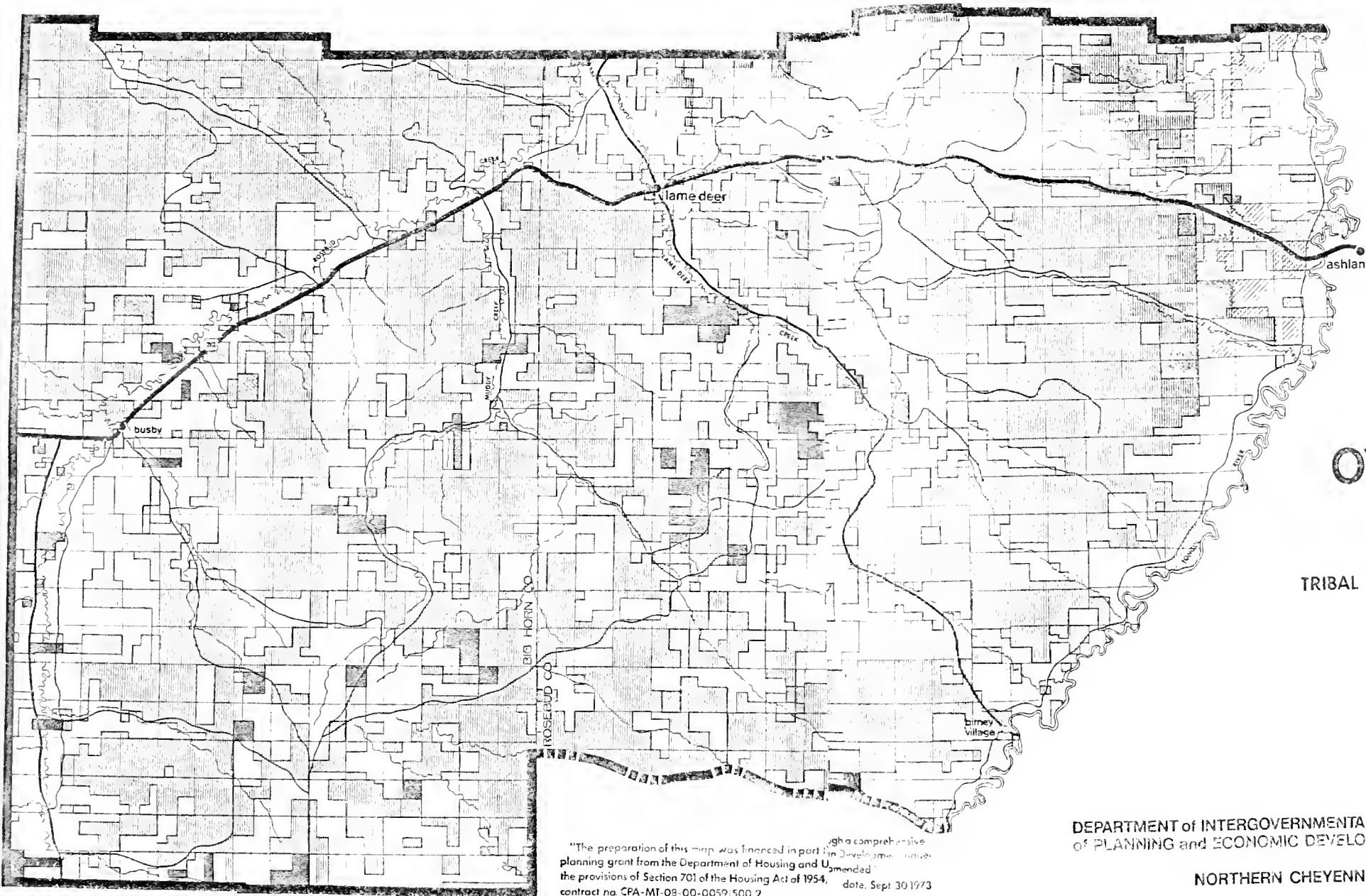
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NORTHERN CHEYENNE PLANNING STUDY

socio-economic analysis of potential coal development

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the surface of the land the owner of the surface rights, be he an individual or be he the Tribe, receives a payment from the mining operation which is usually equal to the fair market value or of the appraised value of the surface lands. In some cases the surface owner merely leases the land to the mining operation and then receives payment over a period of years. When the land is turned back to the original owner he may then do whatever he sees fit with it. In this case the original owner remains the legal owner of the land.

NORTHERN CHEYENNE AGRICULTURE & FOREST LANDS*

Coal development of any magnitude will have some effect upon the existing land uses of agriculture and timber lands. At the present time, these uses are supplying the Tribe with sources of revenue which may not continue once mining operations begin, or may at least be curtailed.

It seems reasonable to assume that some Tribal members will want to continue their agricultural pursuits, even though employment with a mining operation will be more lucrative from the dual standpoint of higher wages plus per capita payments accruing from Tribal royalty income. This may also be true from the timber harvest operation standpoint.

The Agricultural Significance Map shows the various areas of agricultural uses and timber lands. A quick visual analysis of this map indicates that there are certain regions of the Reservation which are better suited for coal mining than others. Obviously, the timbered lands containing existing harvestable timber or potentially harvestable timber should remain untouched by coal development. These areas, aside from their economic value, are prime sources of game refuge, water recharge and retention areas, aesthetic value and recreational potential. Secondarily, but no less important, is the aspect of renewability. Thus, a forest can renew itself after being harvested, with proper management. So also do the areas of prime agricultural uses such as irrigated and dry land farming. Both the timber and the farm lands have an economic importance as well as a social one and should be retained.

The balance of the Reservation is in a grazing category, which can be broken down into the lesser parts of good grazing, marginal and poor. It is within the areas of marginal and poor grazing lands that one should examine the advisability of permitting coal development. Within these regions, the economic and social benefits may be greater from coal mining than from any other enterprise, and perhaps the general degradative effects to the land would be less. In summation then, one should establish the principles and guidelines according where, in general, mining should occur if it is allowed to occur. It would seem a tragedy if mining were permitted throughout the Reservation without any concerns for the individuals who still wish to live there, or if there is not concern for the viable ecological benefits which, however timeless, return to mankind from the land.

*See Appendix for specific and individual data.

Research & Information Systems Div.
State Dept. Community Affairs
Capitol Station
Helena, Montana 59601

AGRICULTURAL SIGNIFICANCE

CROPLAND



EXISTING COMMERCIAL TIMBER HARVEST



POTENTIAL TIMBER HARVEST



MARGINAL VALUE TIMBER AREAS



GRAZING LAND and/or GENERAL FOREST



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NORTHERN CHEYENNE PLANNING STUDY

socio-economic analysis of potential oil development

E. Wirth & Associates, Inc.
Site Data: C-1000-1
Date: 8/16/78
Year: 1980

AGRICULTURAL SIGNIFICANCE

CROPLAND

EXISTING COMMERCIAL TIMBER HARVEST

POTENTIAL TIMBER HARVEST

MARGINAL VALUE TIMBER AREAS

GRAZING LAND and or GENERAL FOREST

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POTENTIAL COAL PRODUCTION IMPACT

PRODUCTION RELEASE AREA

U.S. FOREST SERVICE RPP Areas

EXPLORATION AREAS

AGRICULTURAL SIGNIFICANCE

CROPLAND



EXISTING COMMERCIAL TIMBER HARVEST



POTENTIAL TIMBER HARVEST



MARGINAL VALUE TIMBER AREAS



GRAZING LAND and or GENERAL FOREST



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contract no. CPA-MT-03-00-0059 500.2; date: Sept 30, 1973

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NORTHERN CHEYENNE PLANNING STUDY

socio-economic analysis of potential coal development

The economic benefits of agricultural and timber lands is easily obtained. The gross value of products grown on Indian operated lands amounted to \$1,459,677 in calendar year 1972.* This has produced jobs and income for Tribal members engaged in agricultural or timbering enterprises. Coal development may provide the entire Tribe with more income and better paying jobs, but there are three Tribes who would not be interested in working for a coal company. This being the case, they should be allowed to continue doing what is most lucrative and beneficial to them as individuals.

A general breakdown of the gross annual value of products grown on Indian lands is as follows:

INDIAN OPERATED

Land Use

| | |
|----------------------------------|----------------|
| Small grains | 61,925 |
| Forage, hay, tame pasture | 265,673 |
| Horticultural, garden crops | 5,500 |
| Outdoor, recreation and wildlife | 466 |
| Timberland | |
| - stumpage | 80,320 |
| - log value | 247,193 |
| Grazing | <u>798,550</u> |
| Total | 1,459,677 |

NON-INDIAN OPERATED

Land Use

| | |
|----------------------------------|--------------|
| Small grains | 6,200 |
| Forage, hay and pasture | 19,327 |
| Horticultural, garden crops | - 0 |
| Outdoor, recreation and wildlife | - 0 |
| Timberland | |
| - stumpage | - 0 |
| - log value | - 0 |
| Grazing | <u>1,450</u> |
| Total | 20,977 |

Source: Bureau of Indian Affairs

The numbers of jobs created by the various land resources are as follows:

| Land Resource | Manager | Operator | E.L. Operator | Laborer | P.T. Laborer |
|----------------------------------|---------|----------|---------------|---------|--------------|
| Total Jobs | 4 | 50 | 53 | 10 | 66 |
| 1) Coal Related Businesses | - | - | - | - | - |
| 2) Forestry | 2 | 1 | 2 | 25 | 50 |
| 3) Forestry Related Businesses | - | - | - | - | - |
| 4) Recreation | 1 | 2 | 2 | 2 | 3 |
| 5) Recreation Related Businesses | - | 2 | - | 4 | 6 |
| TOTAL | 3 | 43 | 52 | 39 | 119 |

Source: Bureau of Indian Land Operations

It should be noted that coal development may have some effect on these employment levels, especially in the areas of part-time jobs. There is the potential that those in the part-time categories may completely change to coal mining related jobs, thereby perhaps changing the entire picture regarding labor availability in the land resource job oriented areas. This in turn may cause some who are in agricultural land uses to completely give up these pursuits, due to the lack of labor, either part or full-time.

In addition, the prospect of impending mining operations leads to the need for a rail line to carry out the coal to the buyer. A rail line may not be necessary in the case of a mine mouth thermal generation unit or a coal gasification complex. In the singular case of a mining operation, a railroad would be necessary.

Experience shows that rail lines primarily impact major creek or river alignments due primarily to the ease of construction, allowed by predominantly gentle terrain. This being the case, the primary access points into the Reservation are Rosebud Creek, the Tongue River, and perhaps up the Muddy or Lamp Deer Creek. These areas are prime farm lands and the presence of a rail right of way would have a profound impact on adjacent lands, due to necessary fencing, splitting of property, need for road crossings, and noise.

(See Historic Cultural Maps)

EMPLOYMENT PICTURE

The occurrence of coal development either on the Reservation or adjacent to it may have a profound effect upon the employment levels and the disposable income of the Northern Cheyenne. It is, of course, difficult at this time to precisely predict the absolute numbers of men who might be employed for so one knows what level of mining will be used and what kind of plant(s) or coal gasification will occur. At this point, only predictions based on industry projections and some analogous situations can be made. Many problems must be overcome before any development can occur. Therefore, the Tribe should be cautioned that the following data is primarily based on educated guesses.

Recent information received from the Navaho Area Office in Window Rock, Arizona, provides us with the following data:

"During construction of the two power generating plants on the Reservation, employment figures at each plant recorded a peak of 1500 scaled down to about 175 to operate the plant. Another 200 work at each mine. Navaho's represent approximately 80 percent of the employees. They earn an average of \$10,500 per annum and this generally is considered to be most beneficial to the economy of the Reservation. The general influx of non-tribal people are mainly construction personnel living in temporary quarters during the few months of construction."

Source: United States Department of Interior, Bureau of Indian Affairs, Navaho Area Office, Window Rock, Arizona, July 20, 1973.

Further indication of the potential impact may be gained by examining the following data based on existing mining operations in this general area.

| <u>Mining Operation Company</u> | <u>Tons Mined per Year</u> | <u>Number of Employees</u> | <u>Payroll</u> |
|---------------------------------|----------------------------|----------------------------|----------------|
| Westmoreland | 3.8 million | 125 | 1.1 million |
| Western Energy | 5.5 million | 150 | 2.7 million |
| Decker Coal | 3.3 million | 86 | not/applicable |

NOTE: These figures pertain to mining operations only.

| <u>Electric Generation</u> <u>Company</u> | <u>Number of Employees</u> | <u>Payroll</u> |
|--|-----------------------------|----------------|
| Western Energy (Colstrip) | 45 ea. plant (projected) | not/applicable |

The following information pertaining to coal gasification units is highly speculative in that gasification plants have never been constructed to produce commercial amounts of natural gas. Indeed, several processes for producing the gas have been devised, the Lurgi System being the best known and possibly current along in the experimental stages.

The El Paso Natural Gas Company is in the planning stage of construction of a gasification unit on the Navaho Reservation in Arizona. The following data is based upon projections received from the Company. It should be stressed that these figures are based upon company projections.

COAL GASIFICATION

| Company | <u>Number of Employees</u> | <u>Payroll</u> |
|-----------------------------|----------------------------|----------------|
| El Paso Natural Gas | 941* | 11.7 million |
| *Gasification Complex - 721 | | |
| Mining Complex | 220 | |

With specific reference to the employment situation, it is likely that several mining operations, coupled with either thermal generation or gasification, or both, are likely to occur. Within this context, it would seem that the number of jobs available to Northern Cheyenne would surpass the available labor force. The following statistics, recently obtained from the Northern Cheyenne Tribal Office, indicate the past and current labor force.

NORTHERN CHEYENNE - PAST & PRESENT POPULATION & LABOR TRENDS

| | <u>1965</u> | <u>1966</u> | <u>1967</u> | <u>1968</u> | <u>1969</u> | <u>1970</u> | <u>1971</u> | <u>1972</u> | <u>1973</u> |
|----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total Resident Indian Population | 2219 | 2292 | ---- | 2534 | ---- | 2554 | 2456 | 2633 | 2926 |
| Total Under Age 16 | 867 | 1089 | ---- | 1043 | ---- | 1169 | 1058 | 1176 | 1322 |
| Total 16 and Over | 1352 | 1203 | ---- | 1491 | ---- | 1395 | 1418 | 1527 | 1604 |
| Not in Labor Force - 16 and Over | 912 | 603 | ---- | 811 | ---- | 608 | 563 | 573 | 559 |
| Available Labor Force | 440 | 600 | ---- | 680 | ---- | 787 | 865 | 844 | 1045 |
| Employed | 284 | 456 | ---- | 504 | ---- | 509 | 557 | 611 | 780 |
| Unemployed | 156 | 144 | ---- | 176 | ---- | 278 | 313 | 253 | 265 |
| Unemployment Rate | 35.5 | 24.0 | ---- | 25.9 | ---- | 35.3 | 35.6 | 20.3 | 25.3 |

The total number of enrolled Northern Cheyenne Tribal members as of April 1973 was 3,644.

Source: Northern Cheyenne Tribal Office

In respect to the specific numbers of unemployed, as related to coal development, about 50 percent of the 265 unemployed are women, thus leaving 130 men in the immediately available category, but of these, as of a short time ago, only 71 men were actively seeking employment. About one-third of the indicated female were actively seeking employment, according to the Employment Assistance office in Lame Deer. The most likely employment areas for female labor are the coal mining, laundry, and laundry skills are moderately important, short term. There is presently a training program and another contemplated following completion of the present one.

The major employers on the Reservation at this time are:

Guide Arts
Ashland Timber
U. S. Government
St. Labre School
*OEO & Tribe
Lame Deer School
Busby School

*Effective August 5th, OEO Indian Programs were transferred from the Office of Economic Opportunity to the Department of Health, Education, and Welfare under authorization of the President of the United States.

It is entirely likely that once jobs were available to Northern Cheyenne in any mining operations, some job switching would occur. It is most difficult to assess this type of impact, but we might estimate 20 percent job switching will occur. This will have an effect upon the total job availability sector, for an opening created by a switch could then be filled by another job seeker.

A second factor of concern, more to the existing industries, than to the Cheyenne, is the matter of a lack of men to fill existing jobs, because of job switching. This would occur where a lower paying job was left and not filled by another worker because both were working at the mine. A situation of this type may ultimately result in the closing of an existing industry, due to lack of a labor force.

The matter of the type of jobs which may be open to Northern Cheyennes at a coal mine is of some interest. The Navajo experience provides us with some indication of the types of jobs. Firstly, job training is a necessity at all levels. The type of jobs are in heavy equipment operation, maintenance, welding and electrical repair. These all require job training. Secondly, the operation of the gasification units requires moderately unskilled to highly skilled technicians, with a high degree of reliability. Approximately the same situation is anticipated for gasification.

In an effort to establish what the available numbers of workers which may be available from the Northern Cheyenne Tribe in future years as the population grows, the following computations have been made. A percentage of the available labor force to the Reservation population is established for past years,

then weighed against projected total population.

| <u>YEARS</u> | <u>POPULATION</u> | <u>AVAILABLE LABOR FORCE</u> | <u>PERCENT OF POPULATION</u> |
|--------------|-------------------|----------------------------------|------------------------------|
| 1970 | 2564 | 787 | 31 |
| 1971 | 2846 | 875 | 31 |
| 1972 | 2953 | 954 | 32 |
| 1973 | 2926 | 1015 | 34 |
| 1974 | 3133 | 1221 | 39 |
| 1975 | 3203 | 1313 | 41 |
| 1976 | 3272 | 1406 | 43 |
| 1977 | 3342 | 1503 | 45 |
| 1978 | 3412 | 1603 | 47 |
| 1979 | 3481 | 1705 | 49 |
| 1980 | 3551 | 1811 | 51 |

This labor force would be available for all jobs, not just those in the coal mines.

The following data is for a mining operation capable of an output of five million tons of coal annually - a quantity approximate to the requirement for a 1,000 megawatt power plant. It should be realized that the association of a mine with a power plant has no bearing on the manpower situation of the mine - each entity is completely separate and different skills are required in each, as well as different numbers of employees.

For this potential operation only strippable coal deposits that contain 500 million tons or more with an overburden of 120 feet or less were considered. The mining operation consists of stripping, mining, and hauling coal to the tipple, followed by reclamation of mined land. Overburden is tertiary sediments that require blasting for efficient removal.

Manning Table

| Personnel | Total | Wages per shift | Wage per year |
|---|-----------|-----------------|----------------|
| PERSONNEL AND MAINTENANCE: 3 SHIFTS PER DAY, 7-1/4 HOURS PER SHIFT, 5 DAYS PER WEEK, 48 WEEKS PER YEAR | | | |
| Driver..... | 18 | \$28.67 | \$172,400 |
| Loader operator..... | 6 | 28.67 | 41,300 |
| Truck driver, over 7-ton..... | 3 | 32.15 | 23,100 |
| Truck driver..... | 9 | 28.67 | 61,900 |
| Truck driver..... | 3 | 29.75 | 21,400 |
| Material grabber operator..... | 3 | 28.67 | 20,600 |
| Crusher operator..... | 3 | 28.67 | 20,600 |
| Tipper loader..... | 3 | 29.03 | 20,900 |
| Mechanic..... | 6 | 29.75 | 42,600 |
| Greaser-oiler..... | 3 | 29.75 | 21,400 |
| Oiler, unclassified..... | 6 | 27.58 | 39,100 |
| 1 SHIFT PER DAY, 7-1/4 HOURS PER SHIFT, 5 DAYS PER WEEK, 48 WEEKS PER YEAR | | | |
| Truck driver..... | 1 | 28.23 | 6,800 |
| Crusher operator..... | 2 | 28.23 | 13,600 |
| Loader operator..... | 2 | 28.23 | 13,600 |
| Mechanic..... | 4 | 29.31 | 28,100 |
| Mechanic helper..... | 2 | 27.86 | 13,400 |
| Oiler..... | 1 | 27.14 | 6,500 |
| 3 SHIFTS PER DAY, 8 HOURS PER SHIFT, 6 DAYS PER WEEK, 48 WEEKS PER YEAR | | | |
| Dragline operator..... | 3 | - | - |
| Weekdays ¹ | - | 35.47 | 33,200 |
| Saturdays ² | - | 52.97 | 33,200 |
| Dragline oiler..... | 3 | - | - |
| Weekdays ¹ | - | 32.82 | 30,700 |
| Saturdays ² | - | 48.99 | 30,700 |
| Crusher operator..... | 3 | - | - |
| Weekdays ¹ | - | 31.63 | 29,600 |
| Saturdays ² | - | 47.26 | 29,600 |
| | 84 | - | 613,100 |
| SUPERVISION: 8 HOURS PER DAY, 5 DAYS PER WEEK, 48 WEEKS PER YEAR | | | |
| Assistant..... | 1 | - | 25,000 |
| Assistant supervisor..... | 1 | - | 15,000 |
| Supervisor..... | 1 | - | 15,000 |
| Assistant mining engineer..... | 1 | - | 12,500 |
| Miner..... | 1 | - | 10,000 |
| Miner..... | 1 | - | 7,500 |
| Miner..... | 1 | - | 7,500 |
| Miner..... | 3 | - | 37,500 |
| Miner..... | 1 | - | 14,000 |
| Subtotal..... | 11 | - | 139,000 |
| Grand Total..... | 95 | - | 752,100 |

an shifts per year (3 shifts per day, 240 days).

132 shifts per year (3 shifts per day, 48 Saturdays).

Potential Employment - Gasification:

Plant "A":*

Mine:

Amount of coal to be mined - 1,000,000 tons per year.
 Workforce: 170 total - 60 percent Northern Cheyenne - 102 N.C.
 Wage Level: Average \$12,000/year.

Plant:

Amount of gas produced - 250 mcf per day.
 Workforce: 400-600 total - 10 percent Northern Cheyenne - 40-60 N.C.
 Wage Level: Average \$12,000/year.

Plant "B":

Mine:

Amount of coal to be mined - 8,840,000 tons.
 Workforce: 220 total - 80 percent Northern Cheyenne - 176 N.C.
 Wage Level: Average \$10,000/year.

Plant:

Amount of production - 250 mcf per day.
 Workforce: 721 total - 10 percent Northern Cheyenne - 73 N.C.
 Wage Level: \$10,000/year.

* Company indicates the extreme variance indicates there may be more than one gasification plant. This being the case, employment levels could increase by perhaps 2/3.

The following general figures may be of some interest as they indicate the potential sums of money which will be spent on a complex:

| | |
|---------------------------------|----------------------|
| Construction employment | 3,000 (peak) |
| Construction payroll | \$ 30 million (peak) |
| Gasification complex cost | 353 million |
| Coal mine cost | 67 million |
| Estimated annual payroll (both) | 11.7 million |

The following income schedule to the tribe and employed members is based on the above figures. As such they are somewhat speculative, but do provide an indication of the magnitude of this operation:

| | Plant "A" | Plant "B" |
|-------------------|-----------|--------------|
| Royalties | 1,400,000 | (2,900,000)* |
| Job income - mine | 1,800,000 | (1,000,000)* |
| " " " - plant | 600,000 | (600,000)* |
| Sub Total | 3,800,000 | 4,500,000 * |
| | | 4,137,000 |

*If a second plant is built

The tribal coal will add a potential sum which will provide benefits to the Tribe, either through direct income from jobs or Tribal payments. In addition, there will be other benefits received from tribal members involved in secondary positions, either secretarial or working for someone dealing in a service to the industry or the increased population.

It seems plausible to assume that the yearly benefits accruing to the Cheyenne people (both Tribe and individual) could realistically surpass five millions of dollars a year.

Population

Many factors have and will influence the growth rate on the Northern Cheyenne Reservation, related to coal development. If coal development is allowed to proceed on the Reservation and if non-Indians are permitted to live on the Reservation, population levels will rise dramatically, and the characteristics of the Reservation will change. Such increases will create the needs for improved community service levels such as schools, housing, law enforcement and the like. The size and distribution of the population will create space needs for retail, wholesale and commercial space.

The population of the Indian community itself is increasing by a favorable birth:death percentage and by a gradual inflow of people. Total Tribal members number 3,644* with 2,926 of these living on the Reservation. When space becomes available, some of these living off the Reservation may move on. Since 1965, there has been an absolute increase of 707 Indians on the Reservation.

Population projections for the Reservation have been developed by using the least squares method.

Developing the formula through its natural progression, the following population figures are anticipated:

| | |
|-----------|-------------|
| 1973-2926 | (given) |
| 1974-3133 | (projected) |
| 1975-3202 | " |
| 1976-3272 | " |
| 1977-3342 | " |
| 1978-3412 | " |
| 1979-3481 | " |
| 1980-3551 | " |

While there are other methods which can be used, such as natural increase and net migration, the information provided by the Tribe was the most complete for using this method.

*As of April, 1973

Social, Political, and Service Pressures

The Northern Cheyenne Tribal Council, when considering the entire matter of coal mining must come to grips with the decision as to whether to allow the non-Indian families to reside somewhere on the Reservation, either in a new town settlement, or within the existing developed towns.

Residential Areas

The advent of several hundred incoming families presents a significant problem in the housing supply, which is already in short supply on the Reservation.

Basically there is the potential for several types of housing - mobile homes, single family detached units, and apartments. The precise mix of units and sizes must be determined by further study of the types and sizes of families who are generally employed in mining and power generation operations. The need for housing then dictates the need for a land-use plan which will indicate the locations and amounts of development land necessary. These areas will then require roads, sanitary and water service, electrical and telephone service. In addition, police and fire services need to be examined to see if the available services can adequately serve the new areas in times of need.

The cost of development is high - several examples may be given.* A mobile home park depending upon amenities may cost between 2,000 - 3,500 dollars per mobile home unit. This expense includes the water distribution system, sanitary collector system, paved streets, curbs and gutters, and parking pads.

Single family residential housing costs more per lot, apartments, depending on size, etc., somewhere in between. In general, streets cost about \$6.00 per square yard, while an expanded trunk line for sewer wastes and lagoon (5ac) could cost in the neighborhood of Two Hundred Thousand (\$200,000.00) Dollars. These costs may vary, but the critical point to remember is that the municipality must pay for these improvements.

In the final analysis and with careful planning and established density criteria, part of these costs may be lower, given a feasibility study.

It should be realized that the existing townsites on the Reservation are limited and acquisition may be needed to acquire additional lands.

*Source: Christian-Spring-Sielbach & Associates
Engineers and Surveyors
Billings, Montana

Law enforcement situation

The new residents also face an interesting situation regarding police protection. At the present time, the Indian police will have jurisdiction over members of their Tribe or members of another Indian Tribe. (Copy of pertinent jurisdiction in appendix) There is nothing in the Constitution of the United States which says that the tribal police have the duty and the power to protect Tribal members or the Reservation from harmful actions of non-tribals. (See Exclusion Resolution)

In order to provide proper police protection to the incoming residents, there seem to be two options available. One is that the County Sheriff's Department could provide deputy service to the residents and have an office on the Reservation, or the county could deputize the Indian police to provide the law enforcement function. This would, of course, be subject to a great deal of communication, etc., prior to any such arrangements being made.

Service Pressures

Increased population levels, as previously indicated, if allowed to occur on the Reservation will have profound effect upon the existing wholesale, retail, and commercial services currently available in the towns of Busby and Lame Deer. There will be a need for increased services at all levels - restaurants, service stations, groceries, hardware, dry goods, appliances, barber shops, beauty shops, amusement centers, etc.

These various land uses all require proper placement with respect to the needs they fill, and they all require building and parking space. It may be that a shopping center should be considered as a potential investment for the Tribe, along with a bank.

Impact on Education

At the present time the school system on the Reservation is divided into two parts - one at "Rushy" and one at "Lame Deer". The former is funded by the BIA and has supplies supplied by the BIA. As such it primarily serves the Indian Community, in the sense that all enrolled students are Northern Cheyenne. Thus, it is unlikely that any incoming population can take advantage of the educational plant, for the program is designed for Indian education. Should non-Indians enter the program there would more than likely, be significant changes in curriculum and funding.

The Lame Deer school is a public school, funded by state and federal program revenues, and is operated under the rules and regulations of the Montana Board of Education. Increased population levels of Indians and non-Indians would likely attend this school, just as they do now. Current and projected enrollment figures follow, based on a normal growth pattern. The advent of large numbers of incoming students at all levels would drastically change the projected needs for educational facilities - more classrooms, teachers, administrative staff, busses, etc. would all be needed, necessitating a massive inflow of financial support. At this point it is difficult to assess the magnitude of the numbers of students without a more in-depth analysis of how many families, where they will live, and a projection of existing school construction and maintenance costs.

Past Enrollment

| GRADE | 1967-68 | 1968-69 | 1969-70 | 1970-71 | 1971-72 | 1972-73 |
|--------|---------|---------|---------|---------|---------|---------|
| 1- 6 | 498 | 513 | 501 | 502 | 549 | 532 |
| 8- 7 | 67 | 64 | 79 | 85 | 82 | 82 |
| 7- 9 | 197 | 183 | 199 | 226 | 243 | 231 |
| 9-12 | 164 | 172 | 181 | 180 | 204 | 203 |
| TOTAL | 799 | 822 | 820 | 845 | 920 | 895 |
| CHANGE | | 23 | -2 | 25 | 75 | -25 |

Future Projections

| GRADE | 1973-74 | 1974-75 | 1975-76 | 1976-77 | 1977-78 |
|--------|---------|---------|---------|---------|---------|
| 1- 6 | 558 | 507 | 520 | 551 | 563 |
| 8- 7 | 85 | 82 | 71 | 83 | 84 |
| 7- 9 | 229 | 218 | 216 | 220 | 236 |
| 9-12 | 217 | 232 | 227 | 217 | 219 |
| TOTAL | 935 | 976 | 1004 | 1043 | 1085 |
| CHANGE | 40 | 41 | 28 | 39 | 42 |

Source: Bureau of Indian Affairs

Note: These figures also contain St. Labre enrollments.

Min. I Land Reclamation

One of the critical concerns about coal mining is the use of the land after mining is finished. This is when most environmentalists get very uneasy, for tribal mining operators have not been the best stewards of the land. The matter of stewardship can be handled by the proper application of legislation, but what law applies to reservation lands, but whose laws apply to the Reservation? The U.S. Code of Regulations indicates that the mining plan shall be under the control of the Secretary of the Interior, yet many environmentalists and knowledgeable people indicate that the federal regulations are too broad and too general to be of much good. State law is inapplicable on this matter.

The Tribal Council has several options open to it. One, it can by tribal vote, allow the state to apply, on a contractual basis, any state laws on this specific matter. Two, it can elect to establish its own mining regulations, and can enforce them. The third option is to allow federal law to prevail. It is not up to the consultant, at this point, to suggest what the Tribe should specifically do, for there are many legal and jurisdictional problems which appear to loom on the horizon. The Tribe should in general, have a legal analysis and a legal decision made concerning the advisability of adopting any course of action. The appendix contains some suggestions pertaining to a form of Reclamation Regulations.

The northern Cheyennes were no strangers to cultural change by the time the first white traders came among them in the 18th century. The thinnest fringe of written history has them occupying portions of the valley of the Red River of the North and the tributary Sheyenne River Valley of North Dakota. Driven from this region by the attacks of more powerful and numerous tribes (most notably, the Chippewa), they resettled on the Missouri River to resume their sedentary and agricultural way of life and adapt it to the new region. Soon the pace of trade accelerated on the plains with the coming of manufactured goods and the horse through intertribal trade from various directions.

There is considerable evidence that the Cheyenne commercialized their economy during this period of intensified intertribal trade from around 1750-1800. They also rapidly took up the use of the horse. In a single generation, circa 1770 to 1800 A.D., the Cheyenne made the full transition from settled agrarian people to wandering hunters and traders of the plains, almost totally dependent for subsistence on the buffalo and other large plains game. It is noteworthy that they accomplished this change without a breakdown in their social structure.

During the next 60 years, the Cheyennes extended their range on the plains steadily to the west and the southwest. This was in response to the lure of more numerous horses and better hunting on the one hand, coupled with steady pressure from more numerous and better armed tribes behind them to the east and northeast.

Around 1830, the tribe had become so widely scattered that there evolved two general groupings, the Northern Cheyennes, who ranged around the Black Hills/North Platte River region, and the Southern Cheyennes, who frequented the country along the South Platte and Arkansas Rivers.

The Southern Cheyennes became involved in conflict with the U.S. Army in 1856 and 1857 on the plains of Kansas. The Northern branch of the tribe tried to avoid open and general conflict with the U.S. until 1864.

During the period 1851 to 1866, the Cheyenne maintained a loose and tenuous alliance with the western tribes of the Great Plains. The combined forces of Sioux, Cheyenne and Arapaho pushed the Crow and the Shoshoni off the northern high plains east of the Bighorn Mountains and the Bighorn River. It was during this period that the Northern Cheyennes first became acquainted with the region now encompassed by their reservation.

The years 1864 to 1876 were tragic ones for the Northern Cheyennes. Almost continually drawn into the wars between the government and the Sioux (sometimes, it appears, none-too-willingly), the Cheyennes met with disaster on



HISTORIC AND CULTURAL

- 1 SITE OF HEADCHIEF-YOUNG MULE FIGHT (HISTORIC MARKERS BY CHEYENNES)
- 2 IMPORTANT EARLY CAMPSPACES
- 3 EARLY TRADING POST AND BEEF ISSUE CORRAL SITE
- 4 BATTLE SITE-NELSON MILES, TROOPS AND CHEYENNE SCOUTS, FIGHT LAME DEER'S BAND OF SIOUX
- 5 BIRNEY DAY SCHOOL
- 6 CEMETERIES
- 7 MENNONITE MISSION
- 8 IMPORTANT FASTING PLACE
- 9 POSSIBLE BLACKFEET RAIDER FORTIFICATIONS
- 10 CAMP MERRITT
- 11 CUSTER EXPEDITION CAMPSPACES
- 12 CHIEF LAME DEER'S GRAVE
- 13 ST. LABRE MISSION

"The preparation of this map was financed in part through a comprehensive planning grant from the Department of Housing and Urban Development, under the provisions of Section 701 of the Housing Act of 1954 (as amended) contract no. CPA-MT-OB-00-0059 500.2)"

date: Sept. 30, 1973

DEPARTMENT of INTERGOVERNMENTAL RELATIONS • DIVISION of PLANNING and ECONOMIC DEVELOPMENT state of montana
and
NORTHERN CHEYENNE TRIBAL COUNCIL

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associate consultant
INTERMOUNTAIN PLANNERS
billings, montana



NORTHERN CHEYENNE PLANNING STUDY
socio-economic analysis of potential coal development



HISTORIC AND CULTURAL

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NORTHERN CHEYENNE TRIBAL COUNCIL

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PLANNING STUDY coal development





The map was prepared by the Department of Housing and Urban Development under the provisions of Section 701 of the Housing Act of 1968, contract #CFA 101-800-0059 SCD 2.

NORTHERN CHEYENNE P

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POTENTIAL COAL PRODUCTION AREA

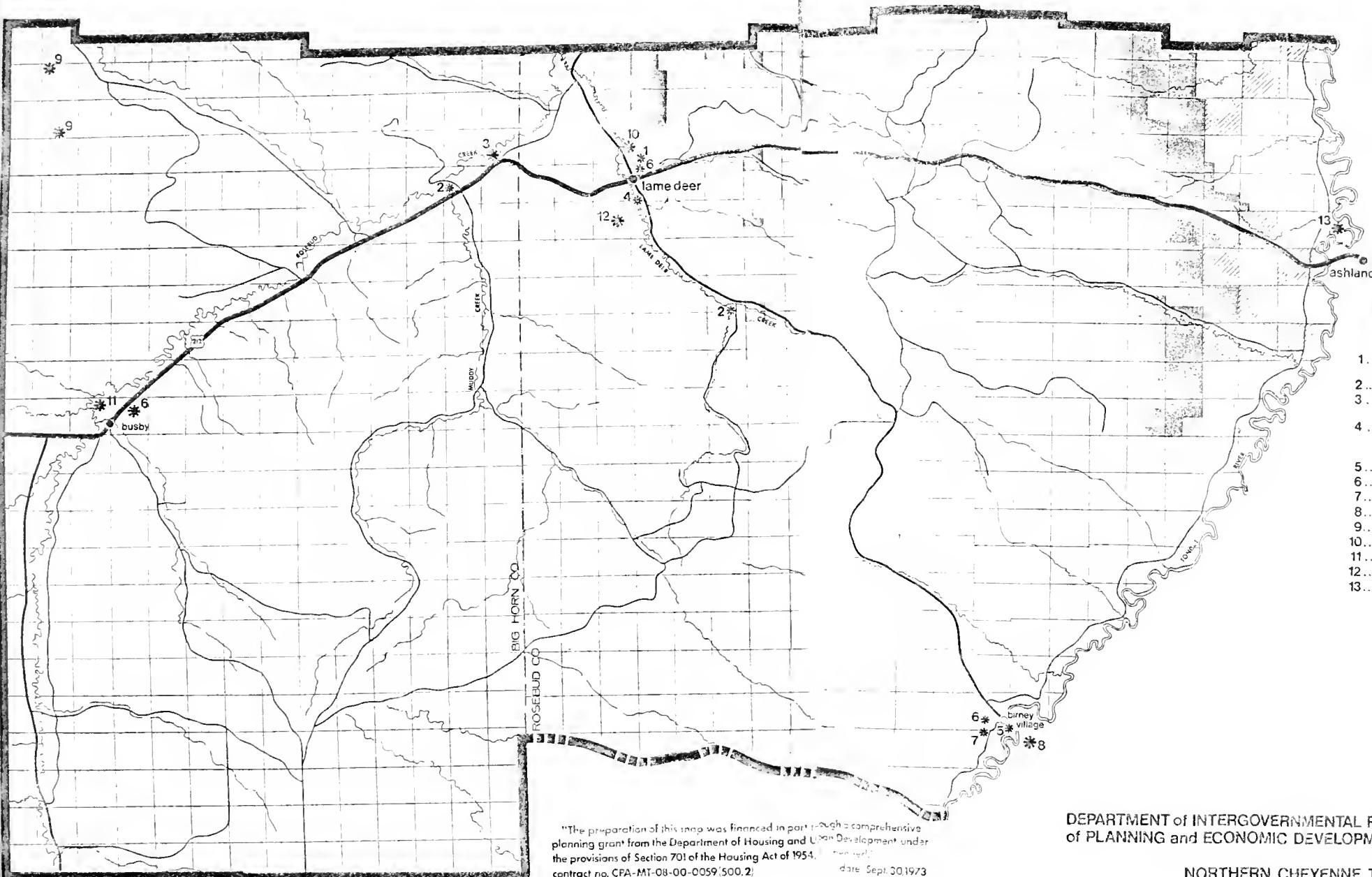
1. EXPLORED - APPROVED

2. EXPLORED - PENDING

EXPLORATION AREA

HISTORIC AND CULTURAL

- 1 SITE OF HEADCHIEF-YOUNGMULE FIGHT (HISTORIC MARKERS BY CHEYENNES)
- 2 IMPORTANT EARLY CAMPSPACES
- 3 EARLY TRADING POST AND BEEF ISSUE CORRAL SITE
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NORTHERN CHEYENNE PLANNING STUDY

socio-economic analysis of potential coal development

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several notable occasions. First at the hands of the Colorado Cavalry at Sand Creek in 1864, then to an attack by Colonel J. J. Reynolds' troops on Powder River on March 17, 1876, and again by troops under the command of Colonel R. S. Mackenzie on the Red Fork of Powder River on November 25-26, 1876.

Many of the Northern Cheyennes surrendered to the army in 1871, still more in 1877. Most of the Cheyenne Indians left the military posts to act as scouts for the U.S. Army in the campaign to round up their erstwhile Sioux allies.

Following the close of the major campaigns of the region, many of the Cheyennes were relocated on the reservation of their Southern relatives in what is now Oklahoma. From here, they broke away and made their often dramatized trek back toward their preferred northern range. Most of the survivors of this trip settled for a time around Fort Keogh. Ultimately, it was this group who were settled upon the present Reservation in the early 1880's.

From the above, it will be seen that the Cheyennes had little direct association with the present reservation land before they came here in the 1880's, and indeed the white fur-traders knew the country reasonably well before the earliest Cheyennes ranged here in pursuit of the buffalo and the Crows. Thus, the area's historic sites are divided between those of pre-reservation days that are primarily important to the U.S. at large, and those that date from the reservation period, and are primarily important to the Cheyenne themselves.

The study of historic sites on the Tongue River Reservation is somewhat handicapped by the fact that the Cheyennes themselves have made little use of written history. The one notable exception is that of John Stands-in-Timber, who for almost 50 years of a long life served as the main recorder and communicator of Cheyenne history and also as a valuable force in the preservation of knowledge of Cheyenne folklore and tradition.

The study of archeology on the Tongue River Reservation has been virtually non-existent for several reasons. First, the Cheyennes have maintained closer control over their land resources than have many other tribes. There has been a tendency to associate the work of the archeologist with the activities of the pot hunters who have been known to loot early reservation period Cheyenne graves. The Tongue River Reservation is today regarded as one of the least-known spots in the whole northern high Plains region archeologically.

We have outlined in considerable detail the history of the area prior to the arrival of the Cheyennes, in still greater detail the history of the Cheyennes themselves and of their reservation years. The net yield of major historic sites is not large. It is hoped that the picture outlined here will help in the preservation of these sites and in increasing the interest of the Cheyennes themselves in identifying the sites that may have traditional and folklore importance to them outside the scope of formal history and archeology.

First Settling Site.

The present area of the Tongue River Reservation was very much off the beaten track of early regional history. Most of the fur-traders traveled into the region from the south, via the Platte River, or across the Great Divide.

One notable exception is the party of Frenchmen who came up the Tongue River in 1802. They camped at several very ill-defined locations along the Tongue, but made their primary stay well upstream from the southeast corner of the reservation.

All of the major exploring expeditions from that of Francois Antoine Larocque in 1805, William Clark's returning party in 1806, the Reynolds/Meynadier expeditions of 1859-1860, bypassed the region by a wide margin.

The area actually comes into historic prominence ironically through the series of events that led to the subjugation of the Cheyenne and their allies by the army.

In 1874, a group of prospectors and other citizens of Bozeman, Montana, launched an expedition into the region for several purposes. First, they wished to investigate rumors of gold discoveries on Rosebud Creek; second, they wished to prove the feasibility of a wagon road from Bozeman to the head of navigation on the Yellowstone; and third, (and likely as important as any), they probably wished to start a major Indian War that would clear the plains for settlement! This force, the "Yellowstone Wagon Road and Prospecting Expedition", marched down the Yellowstone to the Rosebud, and ascended that stream. The expedition had a major fight near the old "Lee" junction some miles north of the Reservation, but did not camp within the Reservation itself, and so left no sites of consequence within it.

The ill-fated Custer expedition of 1876 made camp on the evening of June 24th on a site (#12) just northwest of Busby. The widespread national interest in this expedition goes far beyond its dramatic conclusion. The impact of Custer's resounding defeat on Indian policy, on army organization, training, officer selection and retention and a host of other matters makes the campaign and the sites associated with it of considerable national significance. This site has additional potential in that its proximity to Highway 212 would give it some tourist-promotion and development potential for the Cheyennes as well as a convenient point at which to tell their side of the Indian Wars story.

Two other sites within the Reservation derive from the major Indian campaigns of the army in that period. These, however, deal with a situation that found the Cheyennes fighting against their former allies, the Sioux. In May 1877, troops led by Colonel Nelson Ailes, 5th Infantry, and Cheyenne scouts led by the noted White Bull, fought a band of Minneconjou Sioux led by Little Deer. Little Deer was killed in the fight, and White Bull, the Cheyenne leader, saved Ailes' life!

"Nothing definite on the precise location and terrain involved in the fight are entirely clear, but we are inclined to accept the description of the

terrain and location obtained not long afterward from the Cheyennes by George Bird Grinnell. Grinnell's location for the fight is the one we have mapped (#4).

A related site is the grave of Large Star (#10).

reservation history sites

The Northern Cheyenne have gone through a sequence of phases of reservation life largely set apart by the different kinds of government policy and programs that have re-oriented their mode of relationships to the surrounding region. These shifts of policy in the approach to Cheyenne subsistence have resulted in radical changes in the economic fortunes of the Cheyennes, and have made major changes in the physical setting of life for the Cheyennes. In most cases, the developments of one period have resulted in the destruction or abandonment of the sites and buildings most closely associated with the previous one. Each of these periods of economic development has ended with the Cheyennes disillusioned and in many ways starting all over again economically. Therefore, there has not been much tendency to look back at these sites from reservation activity or to want to preserve sites or structures relevant to these periods that have for better or worse become a part of the Cheyenne historic heritage.

The early years of resettlement at the Northern Cheyenne Reservation probably are looked on in the most favorable light by most informed Cheyennes. The game was still reasonably plentiful, and government rations had only to supplement and not to be their diet. Cattlemen had not yet pushed into the Cheyenne range country in any numbers.

Two traditional camp sites from this period were often used for extended periods. They probably deserve some kind of preservation and marking as the setting for life for many Cheyennes in this last idyllic interlude. These are at #2 and #5 on our map.

The first official point of contact with the Cheyennes in this region appears to have been an early trading post site at a crossing of the Rosebud about a mile below the mouth of Muddy Creek. This was one of the first places that beef issues were made to the tribe (#3).

During the early reservation years, the Cheyennes still continued some intermittent tribal warfare with their long-standing enemies. The Crow Tribe historian, John Stands-in-Timber, tells the story of Blackfeet raiders who set up an outpost in the high country of the western part of the Reservation when the last fight with that tribe took place in 1877. The point involved is likely one of the two indicated on the map (#10).

The last actual hostilities between any of the Northern Cheyennes and the government occurred in 1890, when two Cheyennes, Head Chief and Young Eagle, who were implicated in the killing of a white youth, chose to deliberately challenge and attack a company of soldiers at Camp Merritt, rather than face

trial and punishment in the white man's courts. Their brave and tragic fight occurred on the hills immediately east of the agency at Lame Deer. This site is marked with stones used by Cheyenne elders as reference points with which to outline the story to those who are interested. This is the "Cheyenne Trail," or, simply, the trail of the Cheyenne sites (#1).

The Cheyenne Trail continues through the Cheyenne Reservation, marking the Cheyenne culture and traditions. John Stands-in-Timber has only pointed out one location, but directly associated with the Cheyenne religion, and this is just outside the Reservation. It is the high butte often used as a fasting place and vision quest site, southeast of the Indian community at Birney (#9).

From the mid-1880's until the early 1900's, troops out of Fort Keogh were occasionally sent to the Cheyenne Reservation to keep the peace between the Cheyennes and the settlers of the region. Their presence undoubtedly on many occasions kept either side from initiating action that would have resulted disastrously for the Cheyennes. From 1890 to 1898, an independent post, Camp Merritt was maintained downstream some distance from the agency. Troops remaining after 1898 were housed in buildings at the agency itself and were a part of the Fort Keogh garrison. The Camp Merritt site is marked on the map (#11).

The old buildings for troops at the agency have been demolished.

The two most important institutions that have had an influence on the part of Christian denominations are the St. Labre Mission, just off the Reservation near Ashland, and the Mennonite Mission at the Indian community of Birney. These two points have been highly influential in the education and acculturation of many Cheyenne leaders of the reservation period. These are indicated on the map as #14 and #8, respectively.

Representative of the kinds of schools that educated several generations of Cheyennes is the old Birney Day School, now abandoned (#6).

The cemeteries of each community (#7, #15, and #16) are not "historic sites" in the strict sense, but possess strong historic and emotional ties.

As mentioned previously, the successive economic experiments in cattle raising, in wheat farming, in irrigation, and the CCC and Indian Emergency Conservation Works programs each brought its own inducements to abandon existing cattle trails and settle in a portion of the new work situation. The result is that the present Indian communities of Busby, Lame Deer and Birney are largely a result of the 1930's relocations, stabilized by subsequent governmental activity. Over the past several years, a new program of housing assistance, along with tribal investment in new buildings and enterprises, has resulted in the demolition of most of the old community at Lame Deer and at Busby and the construction of very welcome new structures.

Like most persons in a similar economic situation, the Cheyennes have not much attachment to the trappings of poverty at this point, however "historic" they may be. We doubt, therefore, if there would be much effort to save even one of the 1930's log cabins in each community, although just think to the way of their several generations or predecessors at other points on the Reservation.

The agency at Lame Deer has served for over 20 years as a continuing point of contact between the Cheyennes and the government. Over this period it too has undergone extensive reconstruction. We expect that only two sets of structures might qualify for a National Register listing; if it were sought. These are the main agency office buildings themselves of relatively recent date (circa 1930's), and one set of quarters "building 104" surviving as an architectural period piece from the early 1900's. These are located at #17 on the map.

CULTURAL CONFLICT

The impact of coal development on the Northern Cheyenne is likely to have an effect upon the future traditions and customs of the Tribe. Precisely how much and what kind is difficult to assess at this time. A factor in favor of the longevity of tribal customs, etc. is the past facility with which the Northern Cheyenne people have adapted to different changes in their environment and way of life since their earliest known history. Presently they live a form of rural Montana life, developed over many years which incorporates both their own way of life and that of the dominant culture.

The most prominent features of the early or traditional Cheyenne culture - horse nomadism, buffalo hunting, inter-tribal conflict, and the related religious beliefs, rituals and the inter-tribal social structure (in the sense in which they functioned together as a whole) have been gone since the turn of the century and life on the Reservation has occurred. Since that time the Cheyenne have lived in sustained contact with the white man's ideas and culture. Education systems, fashioned for the white man's way, have paid little or no attention to the Indian way, the results being the development of a cross-cultural conflict. Thus, in some cases, the Cheyenne have lost a sense of identity.

A matter of extreme importance, however, is that the underlying traditional themes, including basic personality style of Northern Cheyenne culture, have not all disappeared. They continue to be manifested in such activities as the Sun Dance, Peyote Religion, and Guard Dances. These factors, and others, have indicated that the Northern Cheyenne, or some of them, are still aware of the importance of the old ways and the importance of the concept of renewal. Thus, in spite of the destruction of the buffalo, which was the Cheyenne economic structure (buffalo gave food, clothing and shelter), some traditional spirit has survived.

The aspect of coal development may place one more traditional constraint in the path of longevity of the Northern Cheyenne way. The factors of increased contact with the white man, increased individual and tribal economic strength, more mobility, and increased desire for material things, will all serve, it is

should, to further erode the concept of the tribal family or tribal unit.

It is up to the Tribe and Council to decide how the potential development may be used to further the universal aims of the Tribe. An area of potential benefit may be to provide an alternative to the existing tribal government. Cheyenne people can encourage the Northern Cheyenne to learn how to compete with each other, but yet still remain within their culture.

There are many other things that could be done by the tribe. There are other things that could be done by the tribe. In the final analysis, the Northern Cheyenne may, eventually, the tribe can decide what these things are and how they might best be done. What is critical about all this is that the Cheyenne must be allowed to decide for themselves what is important and how to do it.

TREATIES, EARLY 1870'S U.S. CONQUEST AND TRIBAL GOVERNMENT

The first treaties that affected the West were made in 1868, in conjunction with other tribes.

THE TREATY OF 1868 (May 10, 1868, 15 Stats., 655) was made in conjunction with the Northern Arapaho. Under it, the U.S. Government undertook to punish "bad men" among whites for any wrongs done the Indians and also took control of criminal jurisdiction over the Indians.

There were many other provisions, including several meant to encourage the Indians to settle down and till the land.

As tribal history clearly shows, the Cheyennes were not content to become farmers. After the Battle of the Little Big Horn, another treaty was promulgated by seven "commissioners on the part of the United States".

THE TREATY OF 1877 (Chap. 72. 44th Congress, Sess. II, 1877) included not only the Northern Cheyenne and Arapaho but "certain bands" of the Sioux as well.

Boundaries of the reservation are given, the Indians relinquished all right to territory lying outside the reservation "including all privileges of hunting," thus cancelling the hunting and roaming rights allowed in the treaty of 1868. The Tribes also agreed to three wagon roads through the reservation and free navigation on the Missouri River. Annuities under the 1868 treaty were confirmed.

Five chiefs were to select a "permanent home" for the Indians, and if a satisfactory site (agreed upon both by the chiefs and the U.S. Government) were found, the Indians agreed to remove themselves to the country so selected within a year.

Article 8 deserves to be quoted in full:

"The provisions of the said treaty of 1868, except as herein modified, shall continue in full force, and with the provisions of this agreement, shall apply to any country which may hereafter be occupied by said Indians as a home; and Congress will, by appropriate legislation, secure to them an orderly government; they shall be subject to the laws of the United States, and each individual shall be protected in his rights of property, person and life."

The Indians promised to select allotments of land as soon as they were removed to their "permanent home," and to "use their best efforts" to learn to cultivate this land.

They who signed this treaty for the Cheyennes were Living Bear, Spotted Elk, Big Bear, Turkey Legs and Calfskin Shirt.

CREATION OF NORTHERN CHEYENNE RESERVATION (See Act H.R. 2173, 56th Congress, H. S. 1). The Northern Cheyenne Reserve, as it was first called, was created by executive orders only. It is version 1. Innum 1 is referred to the "Northern Cheyenne Reservation" in the Executive Orders.

The first executive order, signed by President Chester A. Arthur, set up an area of 765 square miles on November 26, 1884.

A second executive order, signed by President William McKinley, somewhat expanded the area, though exact acreage is not given. The tract of land assigned by President McKinley on March 19, 1900, "includes the lands embraced in the boundaries' set up in the 1884 executive order and then expands the boundaries somewhat. These boundaries are detailed in the Senate Bill cited above."

THE CHEYENNE ALLOTMENT ACT (June 3, 1926, H.R. 9558 -- 44 Stat. 690, Chap. 459) declares the land set forth in the executive order of March 19, 1900, to be the property of the Northern Cheyennes, subject, of course, to the control of Congress.

It provides for the allotting of the land on the reservation "in severalty." A tribal roll was to be prepared and lands were to be classified as agricultural or grazing. Lands were to be allotted to duly enrolled Northern Cheyennes in areas not exceeding 160 acres to any individual. Any Indian could select as his allotment a tract occupied by him at the time, even though such land or a part of it was classified as timber lands.

Section 3 of the Act provides:

"That the timber, coal or other minerals, including oil, gas and other natural deposits on said reservation are hereby reserved for the benefit of the tribe and may be leased with the consent of the Indian council under such rules and regulations as the Secretary of the Interior may prescribe: Provided, That at the expiration of 50 years from the date of the approval of this Act, the coal or other minerals, including oil, gas and other natural deposits, of said allotments shall become the property of the respective allottees or their heirs....."

The Act was amended in 1928 to reserve mineral right to the Tribe "in perpetuity."

Allotted lands were to be held in common, town sites were set up, and provisions were made for the boarding school at Busby, the Fair Day School, and for land for administrative purposes. Tribal cemeteries were authorized, and the Tribe could also reserve lands for religious and educational purposes. Provisions were also made for easements for roads. Any tracts containing springs

or other sources of water supply for cattle were also reserved to the Tribe, along with access to this water.

THE INDIAN REORGANIZATION ACT, also known as the WEAHAWA ACT, was passed by Congress on June 18, 1934. (73d Congress, Sess. II, Ch. 576) The Northern Cheyennes are organized under this Act.

One of the most important provisions is that no portion of any reservation is to be allotted hereafter "in severalty" to any Indian. Existing trust periods are extended and continued, until otherwise directed by Congress. The Secretary of the Interior is authorized to retitle any public lands or Indian reservations to tribal ownership.

Funds were provided (not to exceed \$2 million in any one fiscal year) to acquire more land for Indians.

Section 5 ends with this statement:

"Title to any lands or rights acquired pursuant to this Act shall be taken in the name of the United States in trust for the Indian tribe or individual Indian for whom the land is acquired, and such lands or rights shall be exempt from State and local taxation."

The Act contains many other provisions. Funds are authorized to organize Indian chartered corporations, a revolving fund to make loans to such corporations and money for Indian education.

Section 12 states:

"The Secretary of the Interior is directed to establish standards of health, age, character, experience, knowledge and ability for Indians who may be appointed, without regard to civil service laws, to the various positions maintained, now or hereafter by the Indian Office, in the administration of functions or services affecting any Indian tribe. Such qualified Indians shall hereafter have the preference to appointment to vacancies in any such positions."

Section 16 provides for the organization of any tribe or tribes living on the same reservation to organize for the common welfare. A constitution could be effectively adopted by a majority and a majority vote of adult members (over 21) of the tribe at a special election called by the Secretary of the Interior. The constitution could be revised by majority vote of members of the tribe. Section 16 reads:

"In addition to all powers vested in any Indian tribe or tribal council by existing law, the constitution adopted by said tribe shall also vest in such tribe or its tribal council the following rights and powers: To employ legal counsel, the choice of counsel

and fixing of fees to be subject to the approval of the Secretary of the Interior; to prevent the sale, disposition, lease or encumbrance of tribal lands, or other tribal assets without the consent of the tribe, to negotiate with Federal, State and local governments. The Secretary of the Interior shall advise such tribe or its tribal council of all appropriation estimates or federal projects for the tribe, and shall furnish the tribal council, prior to the submission of such projects, to the Bureau of the Budget and the Congress."

Sec. 17 authorizes the Secretary of the Interior to issue a charter of incorporation to any tribe which petitions for it and ratifies it at a special election called by the Secretary:

"Such charter may convey to the incorporated tribe the power to purchase, take by gift, or bequest, or otherwise, own, hold, manage, operate and dispose of property of every description, real and personal, including the power to purchase restricted Indian lands and to issue in exchange therefor interests in corporate property, and such further powers as may be incidental to the conduct of corporate business....but no authority shall be granted to sell, mortgage or lease for a period exceeding ten years any of the land included in the limits of the reservation. Any charter so issued shall not be revoked or surrendered except by Act of Congress."

NORTHERN CHEYENNE CONSTITUTION. The constitution now in effect was ratified by the Northern Cheyenne Tribe on April 12, 1960, by a vote of 273 for and 67 against. It defines members of the Tribe. It also sets up the Tribal Council, which is given broad powers. All those stated in Section 16 of the Wheeler-Howard Act are included.

Coal development, industrial development or other projects dealing with the economic betterment of the Northern Cheyenne Tribe are affected by the Council powers set forth in Sec. 1, Article IV:

"(c) To approve or prevent any sale, disposition, lease or encumbrance of tribal lands, interests in lands or other tribal assets, including minerals, gas and oil."

"(e) To engage in any business that will further the economic well-being of the members of the Tribe and to undertake any economic activity of any nature whatever not inconsistent with law or any of the provisions of this Constitution."

"(f) To administer any funds within the control of the Tribe; to expend the same for tribal purposes, including salaries and expenses of tribal officials or employees. All disbursements of tribal funds under control of the Tribal Council shall be by resolution duly approved by a majority of the Tribal Council in legal session and the amounts so expended shall be a matter of public record at all times. The Tribal Council, subject to the approval of the Secretary of the Interior, or his authorized

representative, shall prepare annual budget requests for the advancement to the control of the Tribe such money as is now or may hereafter be deposited to the credit of the Tribe in the United States Treasury or which may hereafter be appropriated for the use of the Tribe."

"(g) To levy taxes or assessments upon members of the Northern Cheyenne Tribe, upon their real property, personal property, labor and skill thereof, and to levy taxes or license fees, with right to collect, the Secretary of the Interior, upon non-members doing business within the reservation."

"(j) To purchase, under condemnation proceedings in courts of competent jurisdiction, land or other property needed for public purposes, subject to the approval of the Secretary of the Interior."

"(n) To establish subordinate organizations of members of the Tribe for economic purposes."

"(s) To delegate to subordinate boards or officers or to cooperative associations which are open to all members of the Tribe any of the foregoing powers, reserving the right to review any action taken by virtue of such delegated powers."

The Tribe is authorized to give additional powers to the Council in the future through adoption of appropriate bylaws and constitutional amendments. It might be possible to give the Tribal Council more authority over mining and industrial development on the reservation by this method, but it is probable that any new bylaws or constitutional amendments would have to include that phrase "subject to the approval of the Secretary of the Interior," which limits any power the Council may have, either now or in the future.

Also applying to coal and other development are these sections of the Northern Cheyenne Constitution under Article IX, LAND:

"Sec. 5. Use of Unassigned Tribal Land -- Tribal land which is not leased or assigned, including tribal timber reserves, shall be managed by the Tribal Council subject to the approval of the Secretary of the Interior for the benefit of the members of the entire Tribe, and any cash income derived from such land shall accrue to the benefit of the Tribe as a whole."

"Sec. 6. Purchase of Land by Tribe -- The Northern Cheyenne Tribal Council is hereby authorized and empowered to use tribal funds to purchase lands or interests in land for and on behalf of the Northern Cheyenne Tribe under such terms as may be agreed upon, provided the purchase is approved by the Secretary of the Interior."

No research was done on the 107th Meridian issue, since any benefit from this would go to the Crow Tribe rather than the Northern Cheyenne Tribe.

It has been reported that the Northern Cheyenne Tribe is at present attempting to have its Peabody leases and the prospecting permits on reservation coal invalidated. He cannot predict the outcome of this controversy. However, we assume it will eventually go to the courts.

In, its considerations in any decision will no doubt be the provisions of the Indian Right of Way Act. This act is intended to give the Indians delegation to the tribal council under the constitution of the Northern Cheyenne Tribe.

LEASING -- FEDERAL REGULATIONS,

EXPLORATION PERMITS, AND MINING LEASES

Coal leasing, both under exploration permits and mining leases, on Indian reservations is governed by the Code of Federal Regulations. Frequent references to the CFR are made in both the permit and lease forms. Other provisions have also been inserted in the leases and permits by the Bureau of Indian Affairs.

All references in the leases are to CFR No. 25, Indians, and CFR No. 30, Mineral Resources.

Only a few portions of the Minerals sections cited, 30-211 and 30-231, apply to strip mining. These sections are mostly safety regulations for deep mines. However, certain safety precautions for strip mines are found in CFR 30-211.27. Regulations on record keeping and methods of weighing and measuring coal in CFR 30-211.5 and 30-211.6 can be applied on Indian reservations.

Road rights-of-way are controlled by CFR 25-161. CFR 25-171 has to do with leasing of tribal lands for mining; CFR 25-172 deals with Leasing of allotted lands.

Most frequently referred to is CFR 25-177, entitled "Surface Exploration, Mining and Reclamation of lands."

As of July 3, 1973, 227,733.31 acres of land on the Northern Cheyenne Reservation were under coal exploration permit. Six lessees are involved: Peabody Coal Company (3 permits); Bruce L. Ennis (1 permit); Chevron Oil (1 permit); Horseworthy & Reger, Inc., (2 permits); Meadowlark Farms, Inc., (3 permits), and Consolidation Coal Company (1 permit). In addition, production leases have been signed with Peabody covering 16,035.05 acres.

Total acreage of the Northern Cheyenne Reservation is 444,454.21 acres. This means that more than half of the Reservation is presently under prospecting.

The permits are issued for a period of two years and may be renewed for another two years. After four years, the permit holder must go to production lease or give up all rights to the coal.

A leasing title received from the Area Office of the Bureau of Indian Affairs,

Feebody's three permits apparently expire in December of this year. Information from the same source indicates that all the other permits became effective in June of 1971, which would mean they would not expire until June of 1975.

Prospecting permits presently being used contain a "preference clause" which states: "Permittee may at any time during the term of this permit, obtain a lease or leases on any of the land embraced in this permit ... leases for coal, oil, gas, or mineral rights." (See Form 5-159, page 12, for a copy of this document.)

It should also be noted that under the title "Mineral Prospecting Permit," on the first page of the document, appear the words "Exclusive with Option."

Of course the preference clause quoted above is, in effect, an option.

We were unable to obtain a copy of Form 5-159. The Tribe must have a copy in its possession. We suggest that this form be carefully checked. The copy of the permit we were furnished by the Bureau of Indian Affairs does not contain any provisions regarding the royalty to be paid in case a production lease is signed. Does Form 5-159 specify the royalty to be paid? If it is made a part of the prospecting permit, and if it does set the royalty, then the amount of the royalty was negotiated at the time the prospecting permits were signed, and before any negotiations could begin for production leases.

Was it the intention of the Northern Cheyenne Tribe to set a standard royalty at the time prospecting permits were issued?

Have the Northern Cheyennes considered the possibility that royalty should be based on the quality of the coal as well as the quantity? As will be explained under state laws, the state taxes coal according to the amount of heat it will produce. Coal which burns hotter commands a higher price from purchasers. The Cheyenne coal, as is also noted later in this study, is relatively high quality.

Nothing in the cited sections of CFR 25 or 30 could be found that requires that prospecting permits include a leasing preference clause -- quite the contrary.

CFR 25-171.27a states, in part:

"....A prospecting permit will not give the permittee any preference right to lease, unless specifically so stated in the permit, and all permits granting a preference right to lease must comply with all the laws, regulations, and rules concerning leases on tribal Indian lands." (See CFR 30-211, 30-231 and 25-177)

The Bureau of Indian Affairs is presently engaged in a study of coal mining with special emphasis on strip mining, surface reclamation, and environmental and social impact. This study could well result in a change in CFR provisions, so a detailed discussion of reclamation under CFR 25-177 is unnecessary here.

However, a few things should be noted.

Responsibility for approving mining plans and enforcing reclamation practices lie with the "mining supervisor" and the "superintendent." These two officials, according to CFR 25-177.3 are:

"... shall be held by the office head or other officer of the Bureau of Indian Affairs having jurisdiction, under delegated authority of the Secretary."

"... shall be responsible to the mining supervisor, or his authorized representative, of the Geological Survey authorized as provided in 30 CFR 211.3 and 231.2 to supervise operations on the land covered by a permit or lease."

The Code of Federal Regulations apparently gives no authority to the Tribe, either in the area of approving a pre-mining "technical examination" required in CFR 25-177.4, approving a mining plan or enforcing reclamation provisions.

The "mining supervisor" has authority over those regulations which require technical knowledge. The "superintendent" appears to be the person in charge of general provisions, but is, for the most part to work with the "mining supervisor" in seeing that these provisions are carried out. (CFR 25-177)

In view of the importance to the Northern Cheyenne Tribe that its land be protected, perhaps the Tribe should inquire whether the office of the Regional Mining Supervisor in Montana is staffed and equipped to properly enforce the reclamation, mining methods and environmental protection sections of the prospecting permits and the present lease.

The "superintendent" and "mining supervisor" are given authority under several subheadings of CFR 25-177 to relax certain requirements, the minimum bond is set at \$2,000, though it can be much higher and "shall be in an amount sufficient to satisfy the reclamation requirements" CFR 25-177.8a. Much depends, under the present regulations, on the knowledge, interest and enforcement effort of the mining supervisor and superintendent.

Representatives of the Northern Cheyenne Tribe should have a voice in any new regulations that are to be written.

Much of the language in the permits and leases is quoted directly from the code of Federal Regulations.

Perhaps attention should be called to a few of these provisions.

The prospecting permit currently in use by the Bureau of Indian Affairs has this direct quote from CFR 25-171.9:

"....Except where the rule of approximation applies, a lease shall not exceed 2,560 acres in a reasonably compact form and shall conform to the system of public land surveys. A coal lease may exceed 2,560 acres if the Permittee can demonstrate the need for such larger acreage as may be necessary to permit the establishment or construction of a thermal electric power plant or other industrial facility on or near the reservation."

The Peabody lease contains a statement of royalties on a per acre basis, increasing from \$3.00 per acre per year for the first two years to \$15 per acre per year beginning with the fifth lease year and continuing thereafter. Then the following provision is made:

"The annual advance minimum royalties paid may be applied as credits against future royalty due and owing during all or any part of the year or years when such production occurs, subject to the condition that the total of such advance minimum royalties paid prior to the commencement of actual production shall be recovered over a four-year period by equal annual credits against royalties payable on production during the first four full years of production. After the lessee has thus recovered all such advance minimum royalties paid, advance minimum royalties due on the then current lease will apply only as a credit against royalties payable on production during the lease year for which such advance minimum royalty is paid." See CFR 25-171.4.

Under a development clause in the Peabody lease, this provision is found:

"....It is agreed that the lessee shall commit funds to apply toward the construction of a transportation system, which funds will be regarded as development expenditures, in an amount equal to \$20.00 per acre for each lease year until actual mining operations shall commence. It is agreed further that such monies shall be placed in escrow pending start of construction of a transportation system, and that the lessee shall act as Escrow Agent, holding said monies in a suspense account....It is agreed that if for any reason, the lessee shall fail to begin construction of the transportation system within the period covered by this lease, all sums on deposit in the escrow account shall be paid to the Northern Cheyenne Tribe as liquidated damages." See CFR 25-171.14

These three instances seem to relate directly to a statement of purpose in CFR 25-177.1:

"It is the policy of this Department to encourage the development of the mineral resources underlying Indian lands where mining is authorized."

It should also be noted that the Peabody lease requires a royalty of 17-1/2 cents a ton during the first ten years of the lease, and thereafter, for the second ten years, the royalty is to be 20 cents a ton. However, "the royalty rate may be reduced by 2-1/2 cents per ton if the coal is consumed on the Northern Cheyenne Reservation."

We further note, in the royalty provision:

"During the period that the land is under federal jurisdiction, the royalty provisions of this lease shall be subject to reasonable adjustment by the Secretary of the Interior or his authorized rep-

representative at the end of ten years and each successive ten-year period, such adjustment being based upon market conditions as supported by evidence from the field.

...but demand for coal is great and the price goes up. The Northern Cheyenne Tribe must take care to make sure it gets its money.

Finally, the reclamation provisions in the Feabody lease are binding, even if federal regulations change. The Northern Cheyenne Tribe needs to think about how best to implement the reclamation and environmental protection provisions, and might also ask its attorney to recommend how the strictest possible interpretation can be placed on some of the less specific sections of the lease.

MONTANA LAWS ON COAL DEVELOPMENT

RECLAMATION (Chapt. No. 325, Montana Session Laws, 1973 (Senate Bill No. 94.)

The Montana State Legislature enacted "The Montana Strip Mining and Reclamation Act" during the 1973 session. It provides for the control of prospecting and strip mining of coal, clay, phosphate rock and uranium.

The Department of State Lands and the Board of Land Commissioners are given the responsibility of administering and enforcing the act, and funds are provided for a staff to do the job.

The Board has the duty of conducting hearings, after which it may order a mine operator to adopt remedial measures, or it may issue a final order requiring the Department to revoke a permit. It also has the duty of adopting the general rules pertaining to strip mining.

The Department "shall exercise general supervision, administration and enforcement of this act and all rules and orders adopted under this act." The Department must also examine and pass on all plans submitted by the mine operator for method of operation (a provision some coal companies objected to), backfilling, grading, haulage reduction, topsoiling and for the reclamation of the land affected by the operation.

The Department must order suspension of any permit for failure to comply with the act and is required to order the halting of any operation if it determines that it is illegal without a permit first being issued. It is authorized to make investigations and inspections necessary to insure compliance with the act, and may also conduct its own research and may employ scientific and technical personnel to evaluate actions of lands and waters affected by strip mining.

Everyone who wants to strip mine is required to file a very detailed application. He must show that he has a legal right to conduct the operation. He must also have complete weather information, must give the results of all test holes, surface samples and provide geological information in great detail.

Detailed maps are also required and must show names and locations of all streams, creeks or other bodies of water, roads, buildings, cemeteries, oil and gas wells and utility lines in the area and within 1,000 feet of it -- and the drainage plan on and away from the area of land affected. He must also show a listing of plant varieties in the area.

The operator must furnish a bond of reclamation. The Department will require a bond of not less than \$100 per acre or the \$2,500 for each acre or fraction of an acre to be affected.

Requirements for issuing a prospecting permit are equally strict. Reclamation of land disturbed by prospecting as well as by strip mining is required and assured by bonding provisions.

SECTION 9 is worth quoting in its entirety:

"(1) An application for a prospecting or strip mining permit shall not be approved by the department if there is found on the basis of the information set forth in the application, an on-site inspection, and an evaluation of the operation by the department that the requirements of the act or rules will not be observed or that the proposed method of operation, backfilling, grading, highwall reduction, topsoiling, revegetation, or reclamation of the affected area cannot be carried out consistent with the purpose of this act.

"(2) The department shall not approve the application for prospecting or strip mining permit where the area of land described in the application includes land having special, exceptional, critical, or unique characteristics, or that mining or prospecting on that area would adversely affect the use, enjoyment, or fundamental character of neighboring land having special, exceptional, critical or unique characteristics. For the purposes of this act, land is defined as having such characteristics if it possesses special, exceptional, critical, or unique:

"(a) biological productivity, the loss of which would jeopardize certain species of wildlife or domestic stock; or

"(b) ecological fragility, in the sense that the land, once adversely affected, could not return to its former ecological role in the reasonably foreseeable future; or

"(c) ecological importance, in the sense that the particular land has such a strong influence on the total ecosystem of which it is a part that even temporary effects felt by it could precipitate a significant ecological change, disturbance, or damage; or

"(d) scenic, historic, archeologic, topographic, geologic, ethnologic, scientific, cultural or recreational significance. In applying this subsection, particular attention should be paid to the inadequate preservation previously accorded Plains Indian history and culture.

"(3) If the department finds that the overburden on any part of the area of land described in the application for a prospecting or strip mining permit is such that experience in the state with a similar type of operation and land with similar overburden shows that substantial damage to the soil or water course, or possible water pollution, cannot feasibly be prevented, the department shall delete that part of the application." (Emphasis added.)

"(4) If the department finds that the operation will constitute a hazard to a dwelling house, public building, school, church, cemetery, commercial or institutional building, public road, stream, lake, or other public property, the department shall delete those areas from the prospecting or strip mining permit application before it can be approved."

The law sets limits on the amount of land that can be disturbed before reclamation begins, gives the state control over the method of mining, and makes many technical requirements as to the handling of water resources (underground water in aquifers, particularly) and runoff, the identification of topsoil and its stockpiling and return to the surface, the contours and grades allowable after reclamation, etc. The basic requirement is that the land be left in as good or better shape than it was before prospecting or mining.

Fines start at \$1000 for forfeiting bonds, and for the state to do the reclamation work with the funds so forfeited, if the mine operator does not fulfill his reclamation plan.

Detailed reports of progress of reclamation, including information on the seeding of the reclaimed land, after it has been backfilled and levelled, are required at frequent intervals.

The law also requires that any additional permits held by an operator whose mining permit has been revoked shall be suspended. The operator cannot mine in Montana at all until he has complied with the requirements of the act. (The question arises as a result of this provision: Would the state be able to keep an operator from mining on an Indian reservation in Montana, if a permit elsewhere had been revoked. This question should be answered, either through the courts or with the advice of the tribal attorney.)

All permit fees, forfeit funds and other moneys available to the department under the provisions of the act will be placed in a special strip mining and reclamation fund. This fund will be used for reclamation, rehabilitation, and for reclamation and rehabilitation of water where necessary. Fees will be charged for issuing permits.

The law may also receive other federal or state funds for the reclamation of land affected by strip mining.

There are many other detailed provisions in the bill and in the rules and regulations adopted by the board and the department. This act is considered the strongest strip mining law in the United States, much stronger in its ability to protect the land than are the present federal regulations.

TAXES

NET PROCEEDS are referred to in several sections of the Montana codes. The summary below comes from Sections 84-5402 through 84-5415, R. C. M., 1947 as amended by House Bill 15, Chapter 518, Montana Session Laws, 1971.

Net proceeds taxes are collected in the same manner as coal taxes, and in the net proceeds law of Montana, it is the mine operator who is taxed as the producer of coal and operator of the mine and from the owner of the coal. The coal operator is responsible for collecting the tax, and the county collects the royalties he collects from the mine, and taxes them.

Net proceeds returns are made to the Department of Revenue, but the tax is collected at the county level, after the Department certifies the value.

For the coal operator, this is basically a tax on profits. He must make a notarized statement, in which he reports the amount of coal mined during the previous calendar year, the actual cost of mining and in some cases transporting the coal and certain other expenses. He must also report the actual sale price of the coal. Costs and other expenses are deducted from the gross income, and what remains is taxable under the county levies.

The owner of the royalties must pay county taxes on total royalties collected. The Department of Revenue obtains this figure from the mine operator, since, of course, the royalties the operator pays are deducted from his net proceeds.

All net proceeds taxes go toward paying expenses of county government. A large portion, as with all local taxes, goes to support public schools.

In the case of Indian tribes, Montana has been collecting net proceeds taxes on oil and gas royalties for many years. The state does not collect directly from the tribe. A tax collection policy was established in 1954 in connection with the collection of taxes on oil and gas royalties from the Blackfeet Tribe. J. Reuel Armstrong, Acting Solicitor for the Department of the Interior, ruled on the matter in a letter to the Commissioner of Indian Affairs dated October 29, 1954.

The authority to levy the tax was established under British American Oil Producing Company v. Board of Equalization, 299 U. S. 159 (1936); Op. Sol. M-32003, Sept. 20, 1943.

The Solicitor said,

"The applicable Montana statute relating to the procedure for the payment of taxes is as follows:

"....The operator or producer shall be liable for the payment of taxes on oil and gas royalties as are to be collected from such operators in the same manner and under the same penalties as provided for the collection of taxes upon net proceeds of mines, provided, however, that after payment of such tax such operator may recover or withhold from any proceeds of royalty interest, either in kind or in money, coming into his hands, the amount of any tax paid by him upon such royalty or royalty interest." Sec. 84-5409, R. C. M., 1947.

"The Act of May 29, 1924 (25 USC 398) by which the Congress consented to the taxability of such royalty interests, states in part:

"....the production of oil and gas from minerals on such unpatented lands may be taxed by the State in which such lands are located in all respects the same as if the same were produced from lands belonging to the United States, and the tax so levied or collected by the Interior is authorized and the said tax shall be paid by the lessees as against the royalty interests on said lands...."

Mr. Armstrong concludes:

"The Billings Area Office has suggested that, subject to various administrative controls, the lessees be asked to pay the tax directly to the state, to deduct the amount thus paid when remitting their royalty payments to the tribe and to support the deduction with properly received tax bills. Such an arrangement, it seems to me, is permissible under the 1924 Act and would not impair the obligations under the lease contract between the lessees and the tribes."

He cites Forbes v. Mid-Northern Oil Company, 45 pac. (2d) 673, 679 as authority for this opinion.

With Mr. Armstrong's letter in the files of the Department of Revenue is the following short statement.

"-36246

October 29, 1954

STATE TAXATION OF TRIBAL ROYALTY INTERESTS IN OIL AND GAS LEASES ON BLACKFEET INDIAN RESERVATION

Blackfeet Indian Reservation -- Tribal Oil and Gas Leases --
State Taxation of Tribal Royalty Interests.

On the Blackfeet Indian Reservation, the Secretary of the Interior, consistently with the requirements of the Act of May 29, 1924, (25 U.S.C. 398) may arrange for tribal oil and gas lessees to pay the net proceeds tax levies by the State of Montana against oil and gas royalty interests (Section 84-5403, Revised Codes of Montana, 1947, annotated), to deduct the amount thus paid when remitting royalty payments to the tribe, and to support the reduction with properly supported tax bills.

Since the Northern Cheyenne Reservation was created by executive order, the State of Montana may attempt to apply the provisions of another law as well as the above mentioned, to collect and other taxes on Northern Cheyenne oil. This law, passed by Congress in 1927, reads:

"Taxes may be levied and collected by the State or local authority upon improvements, output of mines or oil and gas wells, or other rights, property, or assets of any lessee upon lands within Executive order Indian reservations in the same manner as such taxes are otherwise levied and collected, and such taxes may be levied against the share

obtained for the Indians as bonuses, rentals, and royalties, and the Secretary of the Interior is hereby authorized and directed to cause such taxes to be paid out of the tribal funds in the Treasury...."
25 USCA 394c

The major tax on coal in Montana is levied under Chap. 432, Montana Session Laws, 1973, H.B. 97. It became effective July 1, 1973. It is called a strip coal mines license tax. It is computed at the basis of the quality of the coal as follows:

- (a) For each ton of coal having a British Thermal Unit (BTU) rating per pound of 7,000 or less, twelve cents a ton.
- (b) For each ton of coal having a BTU rating of 7,001 to 8,000, twenty-two cents a ton.
- (c) For each ton of coal having a BTU rating of 8,001 to 9,000, thirty-four cents a ton.
- (d) For each ton of coal having a BTU rating of 9,001 and up, forty cents a ton.

According to the Montana Bureau of Mines and Geology, the greater portion of Northern Cheyenne coal would fall under (c) above. The coal ranges from about 7,600 BTU's to 9,200 BTU's. The highest BTU coal is found in the south portion of the reservation. Coal beneath the Peabody lease is rated at 8,600 BTU's, and lies in a seam some 65 feet thick.

Under the coal license tax law, one cent a ton will go to the county general fund of the county where the coal is mined. The rest of the money collected will go into the state general fund.

Then there is the Resource Indemnity Trust Fund, created under Chap. No. 497, Montana Session Laws, 1973, H.B. 97. It will amount to approximately one cent a ton on coal, depending somewhat on its quality and selling price, and the money so collected will be put into a trust fund until it reaches the sum of \$100 million, after which all net earnings and receipts may be appropriated by the legislature. Any funds made available under the act "shall be used and expended to improve the total environment and rectify damage thereto."

PROPERTY TAXES - When a coal mining operation is established, all the buildings, equipment, machinery, etc., are taxed by the county as for the various areas of the State of Montana. These taxes, called ad valorem property taxes, must be paid by the mine operator.

Below is a chart on Montana taxes on coal, based on the laws and on figures compiled by Lt. Gov. Bill Christiansen. The net proceeds figure may not be completely accurate, due to some inequities in the reporting of net proceeds, but the variation would be only a fraction of a cent.

| British Thermal Units per pound of coal | | | | |
|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| TAX RATE (per ton) | Under 7M | 7M to 8M | 8M to 9M | Over 9M |
| Gasification | .12 | .22 | .34 | .40 |
| C. & G. Tax | .05 | .07 | .09 | .11 |
| Total Tax | .17 | .29 | .43 | .51 |
| Resources Utilization | .01 | .01 | .01 | .01 |
| TOTALS TAX IN CENTS PER TON | .2571 to .2671 | .3571 to .3671 | .4771 to .4871 | .5371 to .5471 |

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E.R.I.T. SITING BILL - House Bill No. 127 as it was passed by the Montana State Legislature in the 1973 session, gives the state unusual control over the locating of power plants, gasification plants, plants to convert coal into "liquid hydro-carbons" (gasoline, fuel oil, etc.), transmission lines, etc.

The Board of Natural Resources and Conservation is given authority under this law to approve or disapprove of these utilities and other facilities and their locations. This responsibility is shared by the Department of Natural Resources and Conservation.

Not only the effect on the environment, but also the impact on local populations is to be considered in making decisions.

Application must be made at least two years before the time the company plans to begin construction on the plant. Applications must include not only the proposed location of the plant, but also other possible locations. The applicants must show why the facility is needed, must include summaries of any studies which have been made on environmental impact and any other available information.

In addition, the company must pay a filing fee based on the estimated cost of the facility on a sliding scale. On anything up to \$3 million, cost to the company is three percent. The percentage gradually diminishes until it is one tenth of one percent of the estimated cost of any amount over \$300 million.

Finally, the company will pay for further, state supervised studies on the effect of the proposed plant, not only on the earth, the water, the plants and the animals, but on the people who live on or near the site as well.

There are provisions for other departments of the State to participate in the study. These departments would include Health and Environmental Science, Fish and Game, Highways, Intergovernmental Relations and Public Service Regulation. Public hearings must be held before the board reaches any final decision.

It should be noted, it would be two years from the time application is made before a permit could be attained and construction begun. Of course, the board could turn down the alternate sites, or could turn down the application alto-

The new law is specific about possible problems that must be studied, and about requiring that these problems be solved.

Violation of the law carries a fine of up to \$10,000 for each violation. Each day or a continuing violation, either in building or operating a plant or facility without proper approval and a thirity is considered a separate violation.

Assistance To Indians -- Senate Bill No. 425 in the 1973 Montana State Legislature was passed by a large majority. It is a short bill, and can be quoted in its entirety:

"Section 1. All executive and legislative agencies of state government shall within the area of their expertise and authority provide assistance to tribal councils or their officials designees requesting such assistance on any matter relating to coal development on Indian reservation lands."

This legislation, in itself, indicates a willingness on the part of the State of Montana to help Indian people solve the problems arising from coal development on Indian lands.

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Several possibilities are suggested by these state laws, most of which must be referred to the tribal attorney or to the courts, if the Northern Cheyennes want to take some sort of action on them.

We are informed that the Cheyennes are considering a suit in federal district court to prevent collection of some or all of the taxes levied by the state on coal. Such a suit might be successful, at least in part. However, there are laws already cited above which may still control the situation. Some recent Supreme Court decisions, which will be discussed in the next section of this study, need careful thought before such a suit is undertaken.

Should the net proceeds tax on royalty be declared illegal for Indians to pay, this would directly benefit the Tribe. All other taxes, however, must be paid by the mine operator. It would not help the Cheyennes to have some of these taxes cancelled unless there is a firm commitment from the coal company to pay more to the Tribe, in case the suit is successful.

Cheyenne people, especially in recent years, have been very concerned about educational problems, and want better education for their children. Perhaps some way could be found to get more and better educational services on the Northern Cheyenne Reservation from the State of Montana. We should certainly consider some special educational programs and some extra expenditure on education if large amounts of money are realized to the state from coal taxes on the Northern Cheyenne reservation.

It was suggested in this connection that perhaps the Tribe might be wise to seek a declaratory judgment in the federal courts on the effects of all state laws on coal on Indian reservations. Then the Cheyennes would know

exactly where they fall in these state laws.

Should the courts agree that the State has the authority to collect all the taxes mentioned above, then there may be other action the Tribe could take. For example, a suit could be sought to put at least a portion of the tax money in a trust fund to be used for education of Cheyenne children.

The Northern Cheyennes' own Civil Rights Act of 1958 have still to be discussed. Their provisions, taken in connection with Montana's new reclamation and plant siting laws, raise some interesting questions.

Would the Northern Cheyennes consider the possibility of letting the State of Montana enforce reclamation and plant siting on their reservation?

Some authorities feel that an Indian tribe could grant just this much jurisdiction to the State and no more. In other words, it may be possible for a tribe to accept state jurisdiction over mining and plant siting, and still prevent the state from taking any jurisdiction over criminal or traffic offenses or civil matters (debt, etc.)

It seems clear that granting this very limited jurisdiction would require both an act of the State Legislature and a vote of all the members of the Tribe. This last provision appears in the Indian Civil Rights Act.

Further legal research should be done on this question. However, we feel that no matter how many court decisions on this matter we cite, there will still be differences of opinion on it, and that it will probably have to be settled in federal courts.

STATE AND FEDERAL COURT DECISIONS

In the last two or three years, many decisions by the Supreme Courts of Montana and other states have affected the status of Indians. Perhaps even more important are decisions in federal courts -- district courts, circuit courts of appeals and the United States Supreme Court.

Many of these decisions are based on two federal laws, which are cited time after time by the judges and justices.

PL 260, passed August 15, 1953 (67 Stat) is the act of Congress that permitted state jurisdiction in many cases affecting Indians. This law gave the state of California, Minnesota, Michigan, Oregon and Wisconsin jurisdiction over criminal and civil matters on Indian reservations, with three reservations in three different states excepted from the law.

That, however, was not the portion of PL 260 that affected Montana Indians.

Section 7, the last section of the law, is the important one to the Northern Cheyennes. It states:

"The consent of the United States is hereby given to any other State not having jurisdiction with respect to criminal offenses or civil causes of action, or with respect to both, as provided for in this Act, to assume jurisdiction at such time and in such manner as the people of the State shall, by affirmative legislative action, obligate and bind the State to assumption thereof."

In 1959, under PL 280, Montana assumed criminal and limited civil jurisdiction over the Flathead Reservation. The Montana Legislature passed the necessary legislation under Sections 83-802 through 83-805 of the Revised Codes of Montana. The Flathead Tribe agreed appropriate proclamations were made by the Governor, and the state assumed jurisdiction on the Flathead Reservation, but this was the only Montana Indian Reservation that wanted state jurisdiction, so there the matter rested.

Later, Congress passed what is now known as the Indian Civil Rights Act (Title II, Public Law 90-284, Apr. 11, 1968 - 82 Stat). This law allowed states to "accept a retrocession," that is to rescind state jurisdiction in civil and criminal matters.

With appropriate action, states could still accept jurisdiction, but there was one important change. This is found in Section 406:

"State jurisdiction acquired pursuant to this title with respect to criminal offenses or civil causes of action, or with respect to both, shall be applicable in Indian country only where the enrolled Indians within the affected area of such Indian country accept such jurisdiction by a majority vote of the adult Indians voting at a special election held for that purpose. The Secretary of the Interior shall call such special election under such rules and regulations as he may prescribe, when requested to do so by the tribal council or other governing body, or by 20 per centum of such enrolled adults."

The Indian Civil Rights Act contains many of the provisions of the Bill of Rights of the United States Constitution. It protects Indians from certain actions of their own tribal governments. It guarantees religious freedom, forbids "unreasonable search and seizure," keeps Indian courts from trying anyone for the same offense twice or compelling anyone to be a witness against himself, protects against taking private property for public use without just compensation, requires speedy trial, outlaws excessive bail, fines or "cruel and unusual punishment", and guarantees Indians "equal protection" under the law and the right to "due process" of law. It also entitles Indians to jury trials in tribal courts by at least six jurors.

Title II includes some of the provisions of Public Law 280 in respect to permitting state jurisdiction with proper legislation and with the consent of the Indians, as noted above.

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Several U.S. Supreme Court decisions in recent years affect Montana Indians. One of the best known and most often cited is Kennerly (400 U.S., 423, 91 S. Ct.

The Kernerlys operated a grocery store in the Blackfeet Indian Reservation. Members of the Blackfeet Tribe filed suit for credit and the Kernerlys sued in the state district court to collect. In 1967, the Blackfeet Tribal Council had enacted a law giving the tribal council jurisdiction over all actions where the defendant was a member of the tribe. At that time, the state legislature had taken no action, and the state court had not accepted jurisdiction. And there had been no election in which all the adult Indians in the Tribe were entitled to vote.

The Montana Supreme Court held that the state courts had jurisdiction and that, therefore, the defendants must pay their debts.

The U.S. Supreme Court agreed to hear case and reversed the Montana Supreme Court. Provisions of P.L. 280 and the Indian Civil Rights Act were cited in the decision. The U.S. Supreme Court held that action by the tribal council was not enough to give the state jurisdiction. Though the Montana State Legislature had taken "affirmative legislative action" regarding the Flathead Reservation, it had done nothing so far as the Blackfeet Reservation was concerned. The necessary tribal election had not been held.

Two of the Supreme Court justices dissented on the ground that the federal statutes involved were not intended to invalidate tribal legislation which authorized state court jurisdiction, when this legislation could be repealed at any time by the Indians, if they wished.

Kernerly and other decisions in federal courts have had a big influence on both civil and criminal jurisdiction.

For example, there was Security State Bank vs. Pierre, decided by the Montana Supreme Court on February 27, 1973. This involved a transaction on the Flathead Indian Reservation, where the bank in question is located. Richard Pierre, the defendant, is an enrolled member of the Tribe and lives on the reservation. The district court had decided in favor of the bank; the Montana Supreme Court, in a decision written by Judge John C. Harrison, held that the state courts did not have jurisdiction. This was principally because the Flathead Tribal Council had apparently granted criminal, but not civil, jurisdiction to the State of Montana.

In the Pierre decision, Judge Harrison points out:

"The result of the Kernerly decision was to dry up credit sources throughout the state to responsible Indian citizens, a void not easily filled."

Chief Justice Clark made it clear that he disagreed with the Kernerly decision, but since it is a U.S. Supreme Court decision, it "controls."

Kernerly is also cited in a case directly affecting the Cheyennes, Blackwolf v. U.S. District Court, in which the Montana Supreme Court ruled, in effect, that

the Northern Cheyenne Tribal courts did not have authority to turn over to district court jurisdiction juvenile cases resulting from action on the reservation and involving Cheyenne youths. The result is that until Indian youths do something off the reservation to get them into state court, there is now no way to get these young people into state correctional institutions.

Courts do not always excuse Indians of tribal frauds acquired on reservations, as illustrated in a 1971 case heard in the federal district court in South Dakota. In this case, a member of the Cheyenne River Sioux Tribe, like Richard Pierre, had borrowed money from a bank. State courts issued a judgment against the Sioux, whose name was Annis, and ordered his cattle attached to pay the debt.

The federal district court rules that the state lacked jurisdiction, but the bank filed a counter claim in federal court, and the upshot of the whole case was that the court entered judgment for the bank and directed the U.S. Marshall to sell the livestock. (Annis vs. Dewey County Bank, 335 F. Supp. 133, D. So. Dak., 1971.)

We have found no record of appeal to higher courts in this case.

Two of the most recent U.S. Supreme Court decisions affecting Indians have to do with state taxes. Neither grew out of a Montana problem, but obviously both of these decisions will be applied to tax matters in this state. Both decisions were handed down March 27, 1973.

One of these is McClanahan v. State Tax Commission of Arizona, U.S. , 93 S. Ct. 1257 (1973). McClanahan is sure to be cited time and again in tax cases. Rosaline McClanahan is an enrolled member of the Navajo Tribe and lives and works on the portion of the Navajo reservation located in Arizona. Under an Arizona law, apparently similar to Montana's state income tax law, state income taxes were withheld from Mrs. McClanahan's paychecks, and at the end of the year, she sued to recover.

Arizona state courts held that since collecting income tax from individual Indians "did not interfere with tribal self-government," her claim was invalid.

In a unanimous decision, the U.S. Supreme Court reversed the Arizona court. It was a matter of jurisdiction once again. The decision, after analyzing the Navajo treaty and Arizona state tax laws, concludes:

"....we cannot accept the notion that it is irrelevant 'whether the... state income tax infringes on appellant's rights as an individual Navajo Indian,' as the State Court of Appeals admits....To be sure, when Congress has legislated on Indian matters, it has, most often, dealt with tribes as collective entities. But those entities are, after all, composed of individual Indians and the legislation confers individual rights....In this case, appellant's rights as a reservation Indian were violated when the state collected a tax from her which it had no jurisdiction to impose...."

and cited in the writing of the decision included Miller v. Lee, 356 U.S. 315, 19 AFTR2d 1046 (1966), 20 AFTR2d 70-1021, wherein it was held that frequent references are made to Miller.

In 1970, the Navajo Indians, represented by their tribe, filed a class action suit against the state of New Mexico, the city of Santa Fe, and the county of Santa Fe, seeking a refund of taxes collected from Indians so employed for the past five years.

The Navajo Department of Revenue, meanwhile, has announced that taxes are not to be withheld from the salaries of Indians employed on Indian reservations.

The other case is Mescalero Apache Tribe v. Jones, ___ U.S. ___, 93 S. Ct. 1211 (1973). It had to do with the collection of a state gross receipts tax and a state use tax on a ski resort operated off the reservation on land leased from the U.S. Forest Service. The land lies outside the reservation boundaries.

The U.S. Supreme Court reversed the state court in the matter of the gross receipts tax, which the Apaches were not required to pay. The state decision in the matter of the use tax, however, was upheld as collectable. The use tax was levied on materials and equipment used in the construction of the ski lift, and since the facility is permanently attached to the "realty" the court said it was, in effect, a property tax. All the justices agreed in the matter of the use tax; in the gross receipts tax, three justices disagreed on the collection of the use tax.

Another case that may prove to be very important in regulation of any sort of development on Indian reservations is Santana De Cristo Development Corporation v. City of Santa Fe, 502 F.2d 323, 46 AFTR2d 1972. The Pueblo of Tesuque leased land to the corporation near Santa Fe. The city of Santa Fe claims planning, platting and zoning authority over lands lying within five miles of its municipal boundaries. The county of Santa Fe also claims planning and subdivision control over the land. The corporation, however, had made its own master subdivision plan, which was approved by the area director of the Albuquerque office of the Bureau of Indian Affairs.

The corporation, as plaintiff, contended that neither the state nor any of its subdivisions had authority over the land, since they were federal lands under the Indians.

The New Mexico Supreme Court ruled on several aspects of the case, but the most important and, I believe, a major part of the decision is this: the court held that neither the county nor the city could exercise zoning authority over the land in question because "the exercise of this authority by the city would conflict with the delegation, planning and platting authority over the lands which the United States has pre-empted or reserved unto itself." Under those circumstances, the court found "no room for the state or the city to add to or to impose additional or conflicting controls relating

ing to the subdivision, planning or platting of land."

On April 16, 1973, the U.S. Supreme Court denied a petition for review of the decision, which means that the decision of the Court of Appeals stands.

In the case of United States v. Arvin, Inc., over Mining Leases, Lands which are determined and strip mine reclamation, this "fifth right" is applied to support the idea that these, too, are "controls" preempted or reserved by the United States.

It is beyond the scope of this study to summarize all court decisions dealing with property rights, a tribe's right of eminent domain, tax matters, etc. Some citations of interest in these areas are:

United States v. Jim, 93 S. Ct. 261 (1972), which dealt with oil rights of individual residents of an Indian reservation as opposed to rights of the whole tribe;

Seneca Constitutional Rights Organization v. George, F. Supp. 48, 348 F. Supp. 51 (W.D., N.Y., 1972), which had to do with individual members of the Seneca Tribe contesting the tribe's right to take their property as a site for a toy factory;

Graves v. Western Pine Industries, Inc., D. Ariz., 1972, which considered the question of whether or not an Indian Tribe can be sued without the consent of Congress;

Stevens v. C.I.R., 452 F. 2d 741 (9th Cir. 1971), which was concerned with payment of income taxes on several types of Indian land ownership; and

Mason v. U.S., 451 F. 2d 1361 (Court of Claims, 1972), which took up the question of collecting a state estate tax on Indian trust land or income from it.

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Of great importance to the Northern Cheyennes is Northern Cheyenne Tribe v. Hollowbreast et al. This case was heard in the federal district court in Billings last year. Judge W. J. Jameson rendered a decision on it September 29, 1972. The case has been appealed to the Ninth Circuit Court of Appeals in San Francisco. There appears to be no possibility that this court will announce its decision this fall, too late for this study.

These were the four matters in question:

'1. Whether or not the defendants (Hollowbreast et al.) and their predecessors in interest received a vested property right in the minerals in and under their respective allotments which is protected by the Fifth Amendment of the United States Constitution by virtue of the Act of June 3, 1926 (44 Stat. 690) as amended;

"2. Whether or not the defendant class is entitled to the revenues received by the plaintiff (Cheyenne Tribe) by virtue of the execution of leases and per its covering the minerals in and under their respective allotments;

"3. Whether or not plaintiff is liable to the defendants for damages resulting from the activities of the defendants, permittees and lessees of the plaintiff in exploring for mineral deposits in and under said allotments;

"4. Whether or not the defendants are entitled to an injunction to enjoin the plaintiff and its permittees and lessees from going upon their respective allotments for the purpose of exploring for mineral deposits."

Judge Jameson has written a long, well-reasoned decision.

His conclusions:

"I conclude that, consistent with Congressional policy and comparable allotment acts reserving minerals to a tribe, the Northern Cheyenne Allotment Act of June 3, 1926, also reserves sufficient power in the Congress to reserve the Northern Cheyenne mineral estate 'in perpetuity for the benefit of the tribe,' and that the allottees, their heirs and devisees, received no 'vested property right in the minerals which is protected by the Fifth Amendment.' The reserved mineral estate is unallotted tribal land subject to the control and management of Congress under Sections 1 and 3 of the Northern Cheyenne Allotment Act of June 3, 1926 (44 Stat. 690) as amended.

"This conclusion in effect disposes of the remaining issues of law submitted for determination prior to trial. No useful purpose would be served by a detailed discussion of these issues."

Judge Jameson then goes on to say that income from rents, royalties or other profits from the sale of the coal would also go to the Tribe and not the individual allottees. He explains that the defendants would not be entitled either to damages or to an injunction "for the activities of the Tribe and its lessees in exploring, drilling and developing their mineral estate."

Results of the appeal to the Circuit Court, of course, cannot be predicted.

The court says that the Northern Cheyenne Tribe is exploring the possibility of cancelling or invalidating the production leases and prospecting permits which are not in effect, and that many members of the Tribe feel the coal is of poor quality. In this connection, perhaps the idea that royalty should be paid on the quality of the coal as well as the quantity mined might be considered. After all the selling price of 9,000 BTU coal is considerably higher than that of 7,000 BTU coal.

We cannot, of course, express any opinion on the probable success of the Tribe's effort in regard to the leases and permits. We refer the Cheyenne people to the Wheeler-Howard Act and to their own Constitution. Provisions of these two documents will affect the outcome of this matter.

CITATIONS

Treaty of 1868, May 10, 1868, 15 Stats., 655.

Treaty of 1877, Chap. 72, 44th Congress, Sess. II, 1877.

Allotment Act, 30th Congress, Sess. I.

Cheyenne Allotment Act, June 3, 1926, H.R.9558, 44 Stat. 690, Chap. 459.

Indian Reorganization Act, (Wheeler-Howard Act), June 18, 1934, 73rd Congress, Sess. II, Ch. 576.

Code of Federal Regulations, No. 25, Indians, 25-161, 25-171, 25-172 and 25-177; No. 30, Minerals, 30-211 and 30-231.

Montana Session Laws, 1973, Chap. No. 326, S.B. 94.

Revised Codes of Montana, 1947, Sections 84-5402 through 84-5415 as amended by H.B. No. 15, Chap. 516, Montana Session Laws, 1973.

British American Oil Producing Company v. Board of Equalization, 299 U.S. 159 (1936); Op. Soc. M32093, Sept. 20, 1943.

Act of May 29, 1924, 25 USC 393.

Forbes v. Mid-Northern Oil Co., 45 Fec. (2d) 673, 679.

25 USCA 398c

Montana Session Laws, 1973, Chap. 432, H.B. 59 (Amends Sec. 84-1302, R.C.M., 1947).

Montana Session Laws, 1973, Chap. 497, H.B. 97.

Montana Session Laws, 1973, H.B. No. 127.

Montana Session Laws, 1973, S.B. No. 426.

Public Law 230, Aug. 15, 1953 (67 Stat.).

Revised Codes of Montana, 1947, Sections 83-802 through 83-805.

Indian Civil Rights Act, Title II, Public Law 90-281; Apr. 11, 1968, 82 Stat.

Tennerly v. District Court, 400 U.S. 423, 91 S. Ct 480, 27 L. Ed 2d 507.

Security State Bank v. Fierre, Montana Supreme Court, Feb. 7, 1973.

Elaclawolf v. District Court, Montana Supreme Court, Feb. 23, 1972.

Ernis v. Dewey County Bank, 335 F. Supp. 133, D. So. Dak., 1971.

McCloskey v. State Tax Commission of Arizona, ____ U.S. ___, 93 S. Ct. 1257, 1973.

Milliken v. Lee, 365 U.S. 217 (1969).

Montana v. U.S., 440 U.S. 269 U.S. 72 (1962).

" " Alton Lumber Co. v. U.S., ____ U.S. ___, 93 S. Ct. 1267 (1973).

Sangre de Cristo Development Corporation v. City of Santa Fe, 503 P 2d 323, N.M., 1972.

Seneca Constitutional Rights Organization v. George, 48, 348 F. Supp. 51 W. D., N.Y., 1972.

Northern Cheyenne Tribe v. Hollowbreast et. al., Federal District Court, Billings, Judge W. J. Jameson, Sept. 29, 1972.

OTHER REFERENCES

Constitution of the Northern Cheyenne Tribe
Lt. Gov. Bill Christiansen
Lease, Northern Cheyenne Tribe to Peabody Coal Co.
Montana Bureau of Mines and Geology

APPENDIX

LAW AND ORDER

RESERVATION COURT

SECTION 1: Establishment of Court:

An Indian Court is established to be known as the Tribal Council of the Northern Cheyenne Tribe of the Northern Cheyenne Reservation and the Tribal Council will, by ordinance, define and establish a Law and Order Code for the maintenance of law and order and the administration of justice among the people of the Northern Cheyenne Tribe of the Northern Cheyenne Reservation, Montana.

SECTION 2: Jurisdiction:

The Court shall have jurisdiction over enforcement of offenses against Tribal Council Ordinances which are promulgated under authority of Article IV, Section 1, Subsection (i), of the amended Constitution and By-Laws of the Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation, Montana, or the enforcement of any other ordinances which the Tribal Council may see fit to place under the jurisdiction of this court which they have heretofore at this time or at any future time, enacted under the provisions of their approved Constitution.

The lawful jurisdiction of the Northern Cheyenne Tribal Court shall be concurrent and not exclusive with respect to any offenses over which Federal and State courts may have lawful jurisdiction.

It shall be the duty of the said Tribal Court of the Northern Cheyenne Reservation to order delivery to the proper authorities of the State or Federal Government, or of any other Tribe or reservation for prosecution, any offender there to be dealt with according to law or regulations authorized by law where such authorities consent to exercise jurisdiction lawfully fixed in them over the said offender.

For the purpose of the enforcement of these regulations, an Indian shall be deemed to be any person of Indian descent who is a member of the Northern Cheyenne Tribe of Indians or any person of Indian descent who is a member of an unorganized Tribe under Federal Jurisdiction. The Northern Cheyenne Reservation shall be taken to include all territory within the original reservation boundaries, including fee patented lands, roads, bridges, water, and public uses of same, in dispute, including townsites, incorporated towns and cities, as well as all alienated lands within the original boundaries of said reservation.

CIVIL ACTIONS

CIVIL ACTIONS

The Tribal Court of the Northern Cheyenne Reservation shall have jurisdiction of all suits wherein the defendant is a member of the Northern Cheyenne Tribe of the Northern Cheyenne Reservation or subject to the jurisdiction of this court and of all other suits between members and non-members which are brought before the court by stipulation of both parties.

No judgement shall be given on any suit unless the defendant has received notice of such suit and ample opportunity to appear before the court in his defense. Evidence of receipt of the notice shall be kept as part of the record of the case and that in all civil suits, the complaint may be required to deposit with the clerk of court a fee or other security in a reasonable amount to cover costs and disbursements in the case.

SECTION 2: Laws Applicable in Civil Actions:

In all cases, the Tribal Court of the Northern Cheyenne Reservation shall apply any laws of the United States as may be applicable, any authorized regulation of the Department of the Interior and any ordinance or custom of the tribe not prohibited by such Federal laws. If any doubt arises as to the customs and usages of the tribe, the court may request of the Tribal President or his duly qualified representatives as to these customs and usages and accept them.

In the matters that are not determined by the process to be traditional customs and usages of the tribe or found to be covered by applicable Federal laws, authorized regulations or Tribal Ordinances of the Northern Cheyenne Reservation shall be decided by the Tribal Court of the Northern Cheyenne Reservation according to the laws of the State of Montana.

SECTION 3: Judgement in Civil Actions:

In all civil cases, judgements shall consist of an order of the court ... for; money due's to be paid to the injured party or directing the surrender of certain property to the injured party or the performance of some other act for the benefit of the injured party.

Where the injury was deliberately inflicted, the judgement shall impose an additional penalty, which penalty may either run in favor of the injured party or in favor of the tribe. Where injury was inflicted as a result of an accident or where the complainant and the defendant were at fault, the judgement shall compensate both the injured parties for a reasonable part of the loss he has suffered.

SECTION 164 - Costs in Civil Actions.

The Tribal Court of the Northern Cheyenne Reservation may assess the costs of suit, and damages, if any, recoverable against the defendant(s) given. Such costs shall consist of expenses of suit, with interest thereon at the rate of six percent per annum, and such amount as the court may determine in accordance with a jury trial as had and by further order of the court. The costs and expenses shall be paid to the court or as the court may direct.

SECTION 165 - Payment of Judgements from IIM

Whenever the Tribal Court of the Northern Cheyenne Reservation shall have ordered payment of money damages to an injured party and the losing party refuses to make such payments within the time set for payment by the court and when the losing party has sufficient funds to his or her credit at the Agency office to pay all or part of such judgement, the Superintendent may certify to the Secretary of the Interior the records of the case and the amount of available funds. If the Secretary shall so direct, the disbursing agent shall pay over to the injured party the amount of judgement or such lesser amounts as may be specified by the Secretary from the account of the delinquent party.

A judgement shall be considered a lawful debt in all the proceedings held by the Department of the Interior or by the Tribal Court of the Northern Cheyenne Reservation to distribute descendants estates.

SECTION 166 - Default

Any Indian who shall fail to repay the funds loaned him by the Tribe in keeping with the loan agreement as originally approved or amended, or who shall improperly use such funds, shall be deemed guilty of default and upon conviction thereof, he may be ordered by the Court to liquidate all or sufficient amounts of his property to repay the loan in full. The officers in charge of such liquidation shall conform to the loan agreement and will otherwise be at the discretion of the Court. (See Ord. No. 2-56))

1151 - Indian country defined

As used in the provisions provided in sections 1154 and 1156 of this title, the term "Indian country", as used in this chapter, means (a) all land within the limits of any Indian reservation under the jurisdiction of the tribal councils or governments, or otherwise owned by Indians, including the issuance of any patent, and, including rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of way running through the same. (Pub. L. No. 2, 1910, c. 645, 62 Stat. 757; May 24, 1919, c. 139, 31 Stat. 464.)

1152 Laws governing

Except as otherwise expressly provided by law, the general laws of the United States as to the punishment of offenses committed in any place within the sole and exclusive jurisdiction of the United States, except the District of Columbia, shall extend to the Indian country.

This section shall not extend to offenses committed by one Indian against the person or property of another Indian, nor to any Indian committing any offense in the Indian country who has been punished by the local law of the tribe, or to any case where, by treaty stipulations, the exclusive jurisdiction over such offenses is or may be secured to the Indian tribes respectively. June 25, 1948, c. 645, 62 Stat. 757.

1153 Offenses committed within Indian country

Any Indian who commits against the person or property of another Indian or other person any of the following offenses, namely murder, manslaughter, rape, incest, assault with intent to kill, assault with a dangerous weapon, arson, burglary, robbery, and larceny within the Indian country, shall be subject to the same laws and penalties as all other persons committing any of the above offenses, within the exclusive jurisdiction of the United States.

As used in this section, the offense of rape shall be defined in accordance with the laws of the State in which the offense was committed, and any Indian who commits the offense of rape upon any female Indian within the Indian country, shall be imprisoned at the discretion of the court.

As used in this section, the offense of burglary shall be defined and punished in accordance with the laws of the State in which such offense was committed. June 25, 1948, c. 645, 62 Stat. 758; May 24, 1949, c. 139, 63 Stat. 94.

A & B) EXPLANATION OF THE TAXES AFFECTING THE PRODUCTION
ARE AS FOLLOWS:

1. Strip Coal Mining Tax - This is based on total tonnage extracted and the heat content of the coal. The reclamation credit has been removed from the tax.
 - a) For each ton of coal having a British Thermal Unit (BTU) rating per pound of seven thousand (7,000) or less, twelve cents (\$.12) per ton.
 - b) For each ton of coal having a BTU rating of seven thousand one (7,001) to eight thousand (8,000), twenty-two cents (\$.22) per ton.
 - c) For each ton of coal having a BTU rating of eight thousand one (8,001) to nine thousand (9,000), thirty-four cents (\$.34) per ton.
 - d) For each ton of coal having a BTU rating of nine thousand one (9,001) and up, forty cents (\$.40) per ton.
2. Corporation License Tax is a license fee paid by the company for carrying on business in the state. It is based on total net income received in the preceding fiscal year. It is computed by taking 6-3/4 percent of the total net income for the taxable period. The minimum tax under this classification is not less than \$50.00.
3. Net Proceeds Tax is based on the number of tons of coal extracted during the taxable period and is computed from the returns of the gross product yielded from the mine and its gross value in dollars and cents.
4. Property Tax included taxation on all mines, minerals, and quarries in and under the land. Also included are improvements, including all buildings, structures, fixtures and fences. Rail facilities and power transmission lines are in the category also as long as they lie within the parameters of the company's property.
5. Electrical Energy Production License Tax is another license tax levied against utilities or power producers. The law states that every corporation engaged in the generation of electricity pays the sum of 1-1/4 percent of the gross amount reported during the taxable period.
6. Reclamation Tax - This tax was established by the 1975 legislature to provide security against damage to the environment by the extraction of non-renewable natural resources. The tax is levied on mineral extraction or production in the amount of forty-five dollars (\$45), together with an additional sum computed on the gross value of the product. The rate of the is one-half of one percent (1/2 of 1 percent) of the amount of gross value of the product at the time of extraction if the product is in excess of five thousand dollars (\$5,000).

CONSTRAINTS TO COAL DEVELOPMENT

Development of coal resources in Montana and on the Northern Cheyenne Reservation are somewhat constrained by several legal actions which are currently being considered. They are, and not necessarily in order of importance or priority:

1. Appeal of the FERC decision, presently in circuit court, San Francisco.
2. Request of Northern Cheyenne Tribal Council to void all exploration permits and mining leases.
3. The Sierra Club request for injunction on coal development - Montana and Wyoming.

The outcome of these three suits, depending upon direction, could have a profound effect on the mining of coal in the region.

SIERRA CLUB CONCERNS

INTRODUCTION*

1. This case involves the massive development of northeastern Wyoming, eastern Montana, western North Dakota and western South Dakota. Based on the most extensive coal reserves in the world, strip mines, power plants, coal gasification and liquefaction plants, railroads, aqueducts, transmission lines, and new cities and towns have been begun or are expected to be built during the next few years. Federal agencies have already made many decisions concerning this development and will make many more decisions to enter into coal leases, to approve mining plans, to enter into options or contracts for water from federal reservoirs, to permit diversion of water from or placement of structures in navigable waterways, to grant permits for transmission lines to cross navigable waters, and to grant rights-of-way across federal lands. No comprehensive environmental impact statement or interdisciplinary study has been made of the entire development or of any single federal action taken as part of it. This complaint alleges that defendants' proposed actions which will permit significant coal development to occur without preparation of a comprehensive environmental statement and interdisciplinary study violate the National Environmental Policy Act.

JURISDICTION

2. The jurisdiction of this Court is based upon the Administrative Procedure Act, 5 U.S.C. 701-706, which provides for judicial review of actions of federal agencies; upon 28 U.S.C. 1331(a), which gives the district courts jurisdiction over cases involving federal questions in which the amount in controversy exceeds \$10,000; and upon 28 U.S.C. 1331, which gives the district courts jurisdiction over actions in the nature of mandamus. The matter in controversy exceeds \$10,000, exclusive of interest, costs and attorneys' fees.

*Copy of Sierra Club Suit - Wirth Associates files

Plaintiffs in the suit are:

Defendants are:

Rogers C. B. Morton, Secretary of the Interior
Burton W. Silcock, Director of Bureau of Land Management
Marvin Franklin, Assistant Secretary for Indian Affairs
Gilbert G. Stamm, Commissioner of Bureau of Reclamation
Vincent E. McKelvey, Director of U.S. Department of Geologic Survey
Earl L. Butz, Secretary, Department of Agriculture
John R. McGuire, Chief of Forest Service
Howard H. Callaway, Secretary, Department of the Army
Lt. General F. V. Clark, Chief, U.S. Army Corps of Engineers

CLAIMS

First Claim

38. The National Environmental Policy Act of 1969, 42 U.S.C. 4321, et seq., requires that federal agencies prepare an environmental-impact statement before taking any "major federal action significantly affecting the quality of the human environment." 42 U.S.C. 4332(2)(C). The action that defendants have taken and are expected to take concerning coal development in the Northern Great Plains region, as described in paragraphs 31 and 32 above, are plainly major Federal actions requiring preparation and consideration of an environmental-impact statement because individually or at lease cumulatively, they have an enormous impact on the region's environment.

39. The failure of defendants to prepare and consider a comprehensive environmental-impact statement concerning coal development in the Northern Great Plains region before issuing any coal prospecting permits or mining leases, approving any coal exploration or mining plans, entering into options or contracts for the sale of water, granting water rights, delivering water under existing options or contracts, approving diversion of water from or placement of structures in navigable waterways, granting permits for transmission lines to cross navigable waters, granting right-of-way permits for transmission lines, pipelines, aqueducts or railroads, or taking any other actions concerning coal development in the Northern Great Plains region violates the National Environmental Policy Act.

Second Claim

40. Section 102(2)(A) of NEPA, 42 U.S.C. 4332(2)(A), requires "all agencies of the Federal Government * * * [to] utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making which may have an impact on man's environment." Section 102(2)(B), of

NEPA, 42 U.S.C. 4332(2)(D), requires all agencies of the Federal Government *** [to] study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources. The Defendants' failure to make systematic interdisciplinary studies of the Northern Great Plains region or to study, develop and describe appropriate alternatives

to coal prospecting permits or mining leases, approving any coal exploration or mining plans, entering into options or contracts for the sale of water, granting water rights, delivering water from existing options or contracts, approving diversion of water from or placement of structures in navigable waterways, granting permits for transmission lines to cross navigable waters, granting right-of-way permits for transmission lines, pipelines, aqueducts, or railroads, or taking any other actions concerning coal development in the Northern Great Plains region violates the National Environmental Policy Act.

RELIEF

WHEREFORE, plaintiffs pray that this Court:

1. Enter a declaratory judgment that the National Environmental Policy Act is violated if defendants issue any coal prospecting permits or mining leases, approve any coal-exploration or mining plans, enter into options or contracts for the sale of water, grant water rights, deliver water under existing options or contracts, approve diversion of water from or placement of structures in navigable waterways, grant permits for transmission lines to cross navigable waters, grant right-of-way permits for transmission lines, pipelines, aqueducts or railroads, or take any other action involving or affecting coal development in the Northern Great Plains region without preparing a comprehensive environmental-impact statement and interdisciplinary studies of coal and coal-related development of the region which meet the requirements of the National Environmental Policy Act.
2. Enjoin defendants from issuing any coal prospecting permits or mining leases, approving any coal exploration or mining plans, entering into options or contracts for the sale of water, granting water rights, approving diversion of water from or placement of structures in navigable waterways, delivering water under existing options or contracts, granting right-of-way permits for transmission lines, pipelines, aqueducts or railroads, granting permits for transmission lines to cross navigable waters, or taking any other action involving or affecting coal development in the Northern Great Plains region without preparing a comprehensive environmental-impact statement and interdisciplinary studies of coal and coal-related development of the region which meet the requirements of the National Environmental Policy Act.
3. Order defendants, prior to issuing any coal prospecting permits or mining leases, approving any coal exploration or mining plans, entering into options or contracts for the sale of water, granting water rights, delivering water under existing options or contracts, approving diversion of water from or placement of structures in navigable waterways, granting permits for transmission lines to cross navigable waters, granting right-of-way permits for

transmission lines, pipelines, aqueducts or railroads, or taking any other action involving or affecting coal development in the Northern Great Plains region to prepare and consider a comprehensive environmental impact statement and to conduct interdisciplinary studies of all aspects of coal and coal-related development in the region which meet the requirements of the National Environmental Policy Act.

4. Order that plaintiffs are entitled to payment of their attorneys' fees and costs; and

5. Provide such other relief to plaintiffs as the Court may deem just and appropriate.

Should this request for a declaratory judgment be found in favor of the Plaintiffs, the mining operation which might occur on the Reservation may be curtailed until an environmental impact analysis and statement are prepared and approved by the Bureau of Indian Affairs, and others.

CHEYENNE TRIBE vs. HOLLOWBREAST, et al.

This case was heard in Federal District Court in Billings last year, the decision being rendered by Judge W. J. Jameson on September 29, 1972. The case has been appealed to the Ninth Circuit Court of Appeals in San Francisco. The decision is pending.

There are four matters in question:

1. "Whether or not the defendants (Hollowbreast et al.) and their predecessors in interest received a vested property right in the minerals in and under their respective allotments which is protected by the Fifth Amendment of the United States Constitution by virtue of the Act of June 3, 1926 (44 Stat. 690) as amended;

2. "Whether or not the defendant class is entitled to the revenues received by the plaintiff (Cheyenne Tribe) by virtue of the execution of leases and permit covering the minerals in and under their respective allotments.

3. "Whether or not plaintiff is liable to the defendants for damages done to the surface of their respective allotments by the permittees and lessees of the plaintiff in exploring for mineral deposits in and under said allotments.

4. "Whether or not the defendants are entitled to an injunction to enjoin the plaintiff and its permittees and lessees from going upon their respective allotments for the purpose of exploring for mineral deposits."

Judge Jameson has written a long well reasoned decision. His conclusions:

"I conclude that, consistent with Congressional policy and comparable allotment acts reserving minerals to a tribe, the Northern Cheyenne Allotment Act of June 3, 1926, also reserves sufficient power in the Congress to reserve the Northern Cheyenne mineral estate 'in perpetuity for the benefit of

the tribe', and that the allottees, their heirs and devisees, received no 'vested property right in the minerals which is protected by the Fifth Amendment.' The reserved mineral estate is unallotted tribal land subject to the control and management of Congress under Sections 1 and 3 of the Northern Cheyenne Allotment Act of June 3, 1926 (44 Stat. 690) as amended.

"This conclusion appears to dispose of the first issue of law submitted for determination prior to trial. No useful purpose would be served by a detailed discussion of these issues."

He then goes on to say that income from rents, royalties or other profits from the sale of the coal would also go to the tribe and not the individual allottees. He explains that the defendants would not be entitled to either damages or an injunction "for the activities of the Tribe and its lessees in exploring, drilling and developing their mineral estate."

Results of the appeal to the Circuit Court, of course, cannot be predicted.

TRIBAL ACTION

March 9, 1973

Mr. James Canan
Area Director
Billings, Montana 59101

Dear Mr. Canan:

By the authority of the Act of July 24, 1968 (PL 90-424, 82 Stat. 424), the Northern Cheyenne Tribe is authorized to consent to lease our coal deposits for mining purposes in accordance with 25 U.S.C. 396a-f and under whatever rules, regulations or conditions the Secretary may prescribe. On January 18, 1969 the Secretary prescribed 25 CFR 177 to be followed in the leasing of Indian coal deposits such as ours.

25 CFR 177.4 requires a series of events which must occur prior to the issuance of a permit or a lease. The Superintendent is required to make or cause to be made a technical examination of the prospective effects of proposed exploratory or mining operations upon the environment. The Superintendent is also required to establish general requirements based on the technical examination which the applicant must agree to meet. The applicant's acceptance of the general requirements is then evidenced by incorporating those requirements into the permit or lease to be used as a guide by the applicant in the formulation of exploration plans (177.6) or of mining plans (177.7).

After examining the documents listed on the attachment, we find that there are no general requirements which were established on the basis of the required technical examination by the Superintendent and then incorporated into the permits or leases. Our conclusion is supported by a memorandum from Deputy Commissioner John O. Crow to your office on November 17, 1972, wherein Mr. Crow ordered compliance with 177.4 specifically. In addition, on December 12, 1972 Assistant Director Maurice W. Babby sent a memorandum to our Superintendent

which directed him to give "top priority" to the completion of the required technical examinations and reports "to the exclusion of other duties until finished, if this is necessary."

We firmly believe that the failure of the Superintendent to make the required technical examination, his failure to establish the required general requirements, the permits and leases cannot be valid under the Bureau's regulations to the extent that all existing permits and leases must be voided.

Unquestionably the action which we demand that you take in this matter will provide violent reactions. However, we are not concerned with what effect such action will have on the five coal companies now on our reservation. What we are concerned about and protest and will not abide with is any attempt by any Department official to ignore, without our formal consent and without proper Departmental authority, Secretarial regulations which are designed to protect our tribal interests.

In checking 10 BIAM 7, Section 2.7, we are unable to find any authority which permits the Superintendent to disregard Part 177. It is our belief that due to the extensiveness of the coverage of 177.4 (a) (1), a waiver of this protection would have to come from the Secretary in writing in addition to our formal consent to disregard the applicable regulation. We have not, and will not, consent to waive this protective measure; and we are unable to find any authority for the Superintendent to waive it for us.

In addition, we strongly protest the assumption on the part of Deputy Commissioner Crow that the documentation required by Part 177 may be compiled after the issuance of permits and leases and that such action, after the fact, could place the permits and leases in compliance. The language of Part 177 is quite clear: the technical examination of the "prospective effects" must be made and the general requirements established "before the issuance of a permit or lease...," not after. Otherwise, the purpose of the regulations as set out in 177.1 would be of no value.

In reviewing the permits, there are no standards or requirements stated at all; but 177.4 requires such. In reviewing the leases, certainly no one would make an attempt to characterize the language of Paragraph 4 - PROTECTION OF ENVIRONMENT as stating standards which have been established by the Superintendent. Does the following language of the lease in any way reflect the considerations which are required by 177.4 (a) (1):

The lessee agrees:

- (a) To conduct operation so as not to pollute...
- (b) To...hold erosion and flood damage to a minimum.
- (c) To terrace and landscape...in a reasonable manner...
- (d) To conduct operations that will minimize air pollution... (emphasis added)

We believe that Part 177 was designed to preclude exactly what Paragraph 4 allows -- the setting of environmental standards by the lessee. Just exactly is meant by the terms underlined above? Is "minimum" to be interpreted on the basis of Peabody's definition of high-grading lots? And does "responsible manner" mean to a person who will not have to live on a reservation after the coal is gone? It is our belief that the Bureau has given the Superintendent the authority to take the action set forth in the attachment before the negotiations begin.

It is our belief that the Secretary made the Superintendent responsible for the technical examination and for the general requirements in order to make certain that the prevailing view in the leases would be that of one who must be concerned with the quality of the environment after the rapacious machines and corporate people have finished their job of making profits for their company and have left our reservation. Also, so important is this matter of protecting our lands, water and air that the Secretary required a prospective assessment which would insure that the lessees would be forced to take into account the added costs of environmental protection and adjust their bids and royalty payments accordingly. However, as the situation now stands, the lessees stand in the position of the Superintendent in determining what standards must be met in the protection of the environment, or, in other words, what percentage of their profits they will spend in minimizing damage to our land, water and air while operating and in restoring our environment when they leave. As we see the situation now, it is our belief that we have been placed in the position in which the Navajo and Hopi Tribes now find themselves. Although those Tribes have protested the pollution of their air, and the mining of their water and other damaging activities of the energy companies, they are informed by the companies that they are operating in a reasonable manner and are doing everything possible to minimize pollution.

Given the mandatory language of Part 177, language which would be difficult not to understand or to misinterpret, we are forced to conclude that the Bureau approved permits and leases in order to accommodate the legal and practical requirements of the coal companies. This the Bureau may not do. Its only concern, as required by the Secretary's orders, is the protection of the tribe's interests. This the Bureau has failed to accomplish even though explicitly ordered to do so. We regard the failure of the Bureau to comply with Part 177 as being not only illegal but also as constituting such bad faith that the permits and leases are tainted to the extent that they must be voided in order that new negotiations may proceed in the manner which is required. Nothing less will the tribe agree to.

Further, we protest the idea that the leases listed on the attachment are not subject to Part 177. It is our opinion that if a lease does not fit the simple legal arrangements, exchanging rights of an entirely different nature - one, the right to explore; the other, the right to mine. As such we believe that the leases are also subject to voidance due to the fact that they were approved after January 18, 1969. Part 177.2 (c) provides:

The regulations in this part shall apply only to permits or leases issued subsequent to the date on which these regulations become effective. (emphasis added)

It is our opinion that Feedy's leases, dated November 17, 1970 are subject to Part 177.

We believe that the purported legal effects of the permits and leases should be determined by the success of negotiations.

Very truly yours,

s/Allen Rowland
Allen Rowland, President
Northern Cheyenne Tribal Council

Attachments: 4

A. SALES

1) Notice of Competitive Sale No. 2, May 27, 1969.

2) Sale No. 3, June 16, 1971

C. PUBLIC COMPETITIVE

- | | |
|--|---|
| 1) C57-P-30 August 18, 1969 Peabody Coal Company | 11) C-57-P-31 June 16, 1971 Meadowlark Farms, Inc. |
| 2) C57-P-31 August 18, 1969 Peabody Coal Company | 12) C-57-P-32 August 18, 1969 Peabody Coal Company |
| 3) C57-P-32 August 18, 1969 Peabody Coal Company | 13) C-57-P-33 August 18, 1969 Peabody Coal Company |
| 4) C57-P-40 May 21, 1971 Meadowlark Farms, Inc. | 14) C-57-P-34 May 21, 1971 Meadowlark Farms, Inc. |
| 5) C57-P-42 May 21, 1971 Chevron Oil Company | 15) C-57-P-35 May 21, 1971 Consolidation Coal Company |
| 6) C-57-P-43 May 21, 1971 Consolidation Coal Company | 16) C-57-P-44 May 21, 1971 Meadowlark Farms, Inc. |
| 7) C-57-P-44 May 21, 1971 Meadowlark Farms, Inc. | 17) C-57-P-45 June 14, 1971 Bruce L. Ennis |
| 8) C-57-P-45 June 14, 1971 Bruce L. Ennis | 18) C-57-P-46 June 14, 1971 Norsworth & Reger |
| 10) C-57-P-47 June 14, 1971 Norsworth & Reger | |

C. COAL LEASES

14-20 0257-897

C COAL LEASES (Con)

14-20-0257-~~594~~
14-20-0257-90
14-20-0257-901
14-20-0257-902

Real Property Company
November 17, 1972

Real Property Management
323

Dec. 12, 1972

Memorandum:

To: Superintendent, Crow Agency
Superintendent, Northern Cheyenne Agency
Attention: Real Property Management

From: Office of the Area Director

Subject: Indian Coal Lease and Permit Technical Examinations
Required B-25 CFR 177.4

Enclosed herein is a copy of Deputy Commissioner Crow's memorandum of November 17 concerning the accomplishment of the technical examinations required by the cited regulation.

You were informed of the necessity for making these examinations and the subsequent documenting of the records with the reports of your findings some time ago. In view of the memorandum from Mr. Crow and the circumstances which required it to be written, we request that the necessary technical examinations and reports be made and filed for every permit and lease for coal exploration or mining on land within your jurisdiction.

The need to expedite the completion of this task is such that it is to be given top priority to the exclusion of other duties until finished. If you have any questions,

If we can furnish additional information or if you have any questions,
please let us know.

(Sgd) Maurice W. Babby
Assistant Area Director

Enclosures

Bureau of Indian Affairs
Washington D. C. 20240

November 17, 1972

Memorandum

To: Area Directors, Billings, Denver, Phoenix, and Tucson Areas

From: Commissioner of Indian Affairs

Subject: Comptroller Generals Report Entitled "Administration of Regulations for Surface Exploration, Mining, and Reclamation of Public and Indian Coal Lands, Department of the Interior (B-148623)"

The subject report, copy of which is enclosed, was released by the General Accounting Office August 10, 1972.

You will note, on page five of the Departmental response, it is stated that instructions have been issued by the BIA to fully document the files in compliance with existing regulations. This refers to the consensus arrived at in a meeting in Phoenix, Arizona, the week of April 14-18, 1969, attended by personnel from the USGS, and Washington and several Area Offices of the BIA.

The purpose of this memorandum is to reinforce that consensus, which partially concerned the initiation and physical accomplishment of technical examinations required by 25 CFR 177.4. It was generally agreed by those in attendance at the said meeting that due to the procedure of offering, in most cases, large blocks of land for competitive bid it could be both unnecessary and physically very difficult if not impossible to personally inspect all lands prior to a sale offering. The data available in the offices of the USGS and BIA plus the familiarity of the field offices employees with the land could preclude the necessity of a physical on-site inspection in every case to comply with the intent of technical examination. However, as indicated by the GAO report, written evidence of these examinations was not in every instance found in the files.

I wish to re-emphasize the necessity of documenting the files with a report which will indicate that a technical examination, composed of either known data, personal familiarity of field staff officers, physical inspection, or initiation of other data relative to the land in question prior to any advertisement or negotiating actions. This also includes all other reports required by 25 CFR 177.

s/ John Crow

Deputy Commissioner

Enclosure

APPENDIX "A"

A NATURAL RESOURCES ADMINISTRATION PROGRAM

A Natural Resources Administrative Program

The potential for use of the natural resources on and land in the reservation and the impacts to all the people on the reservation indicates that a special management structure be established in order to preserve and protect the tribe's resources. This structure will be responsible for managing, developing, utilizing, and protecting the reservation itself. It will be primarily a planning and decision-making body operating under the guidance and policy making and directing power of the tribal council. At the present time, the following Council committees are responsible for various areas of management. They are:

Administrative
Community Services
Land
Scholarship
Housing
Board of Health
Range Improvement
Natural Resources
Economic Development
Range Advisory
701 Planning Board

Although these committees, operating under the guidance of the tribal council, have functioned in an adequate manner in the past, the coming of coal mining will add another degree of magnitude to all of their deliberations and responsibilities.

It is felt by this consultant that the problems which will begin to occur will be of a more technical nature than the tribe has had to deal with. Also, because of an ever-increasing emphasis for increased self-determination, especially over coal-oriented matters of jobs and revenue, a more technically oriented operation and staff will be necessary.

In the face of these efforts, and the magnitude of potential coal development operations, it is suggested that a Natural Resources Administrative Program be established by the Council. The purpose of such a program is to oversee and coordinate all needs resulting from or depending upon natural resource development.

It should be noted that within the proposed management structure the existing committees still have a role and input. Thus the operation will still be under the guidance of the tribal council, if not specifically directed.

The mining of coal and reservation funds will, as stated elsewhere in this body of the study will bring a flood of new people. New people will come in, new jobs created, more income generated to be spent on and off the reservation, and needs created in the public and private service sectors. Financial methods will be needed to insure that housing, roads, public services, and educational facilities can be constructed to meet the needs created by growth. The Tribal planning efforts will need to come to grips with problems of locations for housing, educational facilities, sewer and water facilities, and an expanded retail and commercial center on the reservation. The proper allocation of these various needs

in to be controlled and guided by the special administrative and management staff.

Tribal Resources and Administrative Board

This would be the formal name of the Natural Resources and Administrative Program. Its' membership should be composed of tribal members, one representative of the PIA and a representative of the tribal authority. This board would be policy-making body, and be responsible to the Tribal Council on matters important to the preservation of natural resources and lands under consideration for exploitation.

The proposed Tribal Resources and Administrative Board should have an executive director who would manage the day to day operations of the various staff groups.

These groups should deal with matters relating to legal questions, resource coordination, economic development, planning and liaison. A more specific outline with respect to group tasks will be outlined later in this report, along with an organization chart. The executive director would be directly responsible to the Board for the proper management of the staff operations.

The background of this person should be in the field of natural resource management with significant managerial and administrative experience. His task will not be a simple one, in that he will be dealing with a program which will have an effect upon the future of the tribes natural resources and therefore their primary livelihood.

Staff Groups

The staff groups should be composed mostly of technicians who are skilled in the various phases necessary for proper implementation of tribal natural resource policy and goals. The major areas of concern are Legal, Resource Management, Economic Development, and Planning and Liaison. Their role will be doubly important in that it is they who will be in contact with the coal companies, local government, and tribal members on an almost day-to-day basis. Therefore it is important that they know the problems first-hand.

Legal Department

The Executive Director and Administrative Board will be in charge of this department, who will direct the efforts of his staff and prioritize his duties. The primary responsibility of this group is to monitor, inspect and advise on matters pertaining to regulations, permits, tribal laws, tribal ordinances, rules and regulations, and enforcement of rules and regulations pertaining to the proper management of these matters.

This group must also work with the coal companies to make sure that the applicable regulations are workable and do not cause significant or unnecessary problems of implementation or enforcement.

Resource Management

This staff group, along with its administrative role are important in that their responsibility is to help the tribe to maintain the stewardship of the natural resources and surrounding lands which may be affected by the proposed coal development area: soils, agriculture, hydrology, geology, ecology, and reclamation.

The general scope of operations by this group is to carefully examine the impacts of any mining activity or use of natural resources making sure that the proposed activity will not have potentially dangerous effects upon the surrounding lands or resources.

Economic Development

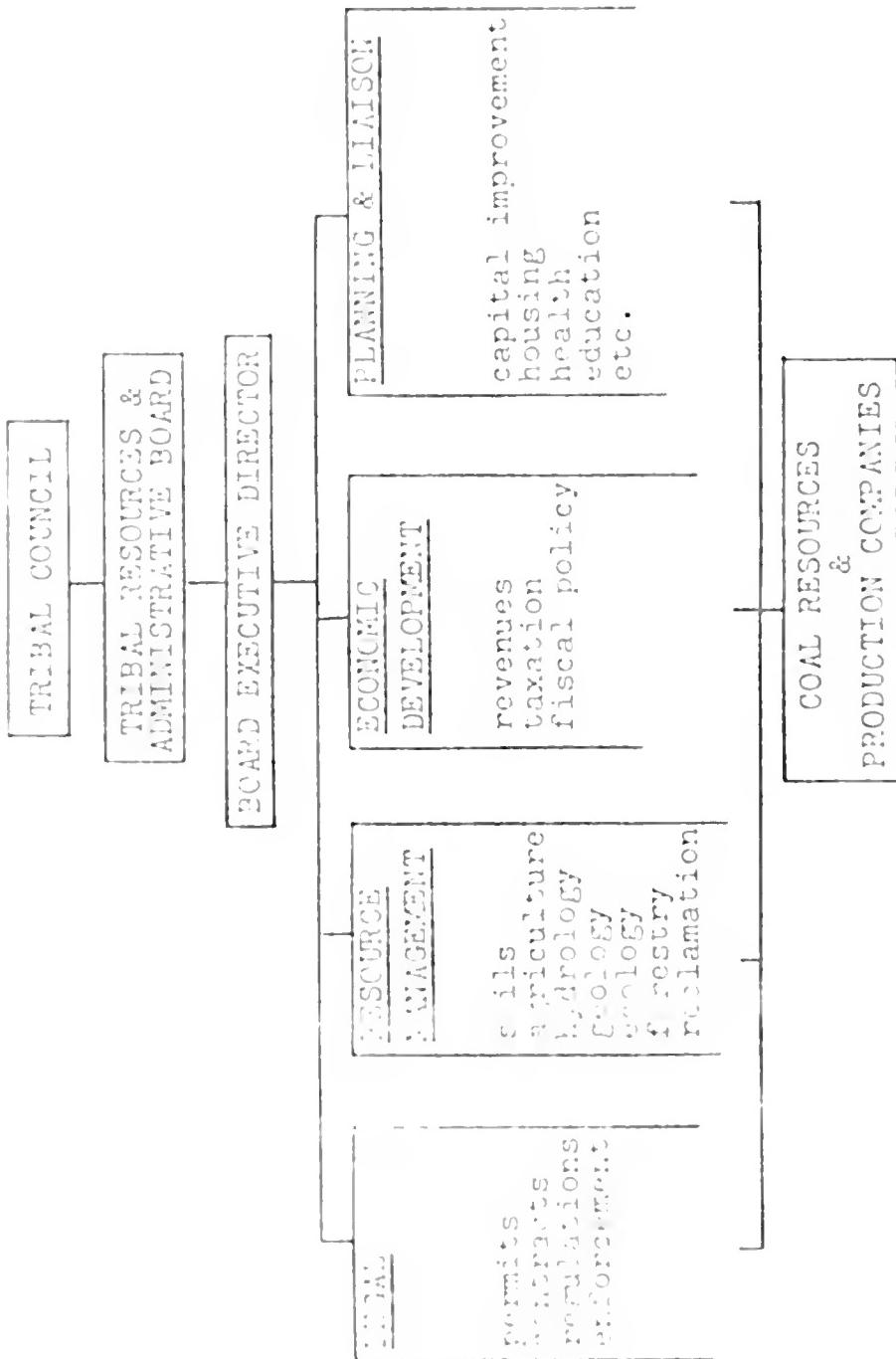
The task of this staff group is to examine the type and amount of the revenues returning to the tribe from coal mining and indicate to the board various areas where these funds might best be applied. This group would work closely with the Planning and Liaison group to ensure a coordinated program. One of the duties of this group would be to examine possible sources of investment opportunities for surplus tribal funds.

Planning and Liaison

The duties of this staff group would be to set up and establish the critical areas of need within the tribal context. Obvious ones are housing, health care, education, and shopping opportunities to name a few. This group would establish a priority list in concert with the board, and indicate ways to develop programs which would alleviate existing problem areas. The group would work in close harmony with the economic development staff in order to design realistic answers based on potential revenues expected from coal development.

In addition the planning and liaison group would prepare a master land-use plan indicating the future directions of growth and indicating needs as they can be projected in a realistic fashion from the tribal viewpoint. This could also entail a close working relationship with the coal mining and power producing industries who are desirous of locating on the reservation.

These four groups should work closely together for the benefit of the tribe. Coal mining will have significant impact upon the tribe. The Executive director has the responsibility of insuring a cooperative atmosphere between groups and the Board.



APPENDIX "B"

A SUGGESTED FORM OF RECLAMATION GUIDELINES

A SUGGESTED FORM OF
RECLAMATION GUIDELINES*

*Patterned after Reclamation Guidelines, State of Montana, Department of State Lands, 26-2.10(10), 1973.

RECLAMATION GUIDELINES

- I. Introduction
- II. Physical*
- III. Hydrological *
- IV. Biologic*
- V. Application - Strip Mining Permit
- VI. Prospecting
- VII. Preplanning
- VIII. Mining and Reclamation Plan
- IX. Blasting
- X. Water Quality
- XI. Topsoiling
- XII. Planting and Revegetation

* Factors critical to success for successful Mined Land Reclamation on the Northern Cheyenne Reservation, by John Goers, Administrator, Reclamation Division, Department of State Lands, and Jim Posewitz, Chief, Environment and Information Division, Fish and Game Department.

I. INTRODUCTION

In order to ensure tenacity of land in the productive sense, the Northern Cheyenne must have some type of assurances that the land will stay the same or better than it was prior to that before it was disturbed. Therefore, a form of reclamation regulation should be present. One way to do this would be to have the State of Montana enforce their own regulations. On the other hand, the Tribe could establish their own regulatory procedures and enforce them by enacting the favorable legislation through the Tribal Council. The proper details of establishing such a mechanism should be worked out by tribal attorneys; however, this portion of the Coal Study will point out some of the more important features which should be established in order to draft worthwhile regulations.

Information regarding the physical, hydrologic, and biologic systems present at the mining site and adjacent area must be obtained prior to actual mining operations. Unless this is done and the systems well understood and documented, the outcome of a reclamation plan and regulation will have little chance for successful implementation.

Some of the information and findings may indicate that special mining and soil handling methods would need to be established. Such findings could indicate that different equipment or special physical procedures be implemented.

In summary, detailed studies of the overburden material, including topsoil characteristics, should be completed early in the mining planning procedure so that in the event special equipment or procedures would need establishing, there would be plenty of lead time.

II. PHYSICAL SYSTEMS

The physical systems to which reclamation must relate are the soils and the overburden. The surface soil material naturally present on the areas to be disturbed supports all of the uses of the land that have been enjoyed in the past as well as all present uses unrelated to mining. Surface soil materials must be salvaged for reuse in reclamation if that reclamation is to have the best chance of being successful. Every effort should be made to assure that all disturbed areas are covered with surface soil materials.

The first major portion of a reclamation plan should be keyed to a soils map prepared after a detailed soil survey. The plan should specify how much surface soil material should be saved from areas overlain by each specific mineral type. The specifics should be straightforward and non-technical so that operators will have little difficulty in determining how much material to save from any given area. Generally, a system of classification such as follows might be implemented:

1. Preparation of detailed soils map
2. Determination of physical and chemical properties of each soil type
3. Determination of amount of soil cover

4. Overburden analysis
 - particle size
 - weathering rates
 - porosity and permeability
 - nutrient level chemical analysis
 - greenhouse tests

HYDROLOGIC STUDIES

Both surface and underground hydrologic systems must be well understood prior to the commencement of mining. Hydrologic phenomena may constitute serious reclamation problems; therefore, it is of primary importance that all possible impacts of mining and related activities upon present and projected Reservation water uses be understood. A reclamation plan should set forth options to alleviate the problems which may occur.

Several of the factors which should be analyzed are as follows:

1. Surface water studies
 - mapping of drainage areas
 - quantities of flow
 - existing water uses quantified and qualified
 - note hazard situations
 - impoundments
 - sedimentation studies
2. Groundwater studies
 - study of aquifers
 - bedding
 - proposed groundwater uses
 - identification of alternate sources
 - evaluation of groundwater recharge sources

IV. BIOLOGICAL SYSTEMS

All energy flowing through living communities originates at and is totally dependent upon plant communities which capture solar energy and convert it to food for all living things.

Through time these basic plant communities evolved into diverse, complex, and interrelated groups of plants suited to the area in which they live. Consequently, no disruption of the plant communities should be allowed until they are all identified, classified, and the rudiments of their existence understood.

The following studies are suggested:

1. Soil condition, slope, moisture requirements
2. Vegetation maps prepared
3. Topsoil replacement schedules
4. Fertilization and plant regeneration

All the animal communities now existing essentially depend upon the native, diverse plant communities now present in the specific area to be mined.

Traditionally, Indian reservations have not managed game populations, but in the face of increasing pressures of development, this factor should be examined from a practical standpoint.

II. APPLICATION FOR A STRIP MINING PERMIT

(1) All tests, analysis or surveys required by these rules shall be performed or certified by qualified persons. The methods and apparatus used in a given test, analysis or survey shall be described.

(2) All materials received toward permit application prior to the formal adoption of these rules may be accepted by the Tribal Council.

(3) An application for a strip mining permit shall be made on forms provided by the Tribal Council.

(4) Two (2) copies of all applications, maps, reports or other informational data shall be required. In addition to the information specifically required in the law, the following information shall also be included as part of an application for a strip mining permit:

(a) A listing, location and description of the archaeological, historical, ethnological and cultural values of the area to be affected. When possible, such values shall be located and identified on accompanying maps. Published informational research or other information must be referenced.

(b) A comprehensive listing, location and description of significant or unique scenic and/or geological formations or sites.

(c) A narrative explanation and/or other means necessary showing that the permit area does not possess special, exceptional, critical, or unique characteristics or that surrounding land does not possess special, exceptional, critical or unique characteristics that would be adversely affected by mining.

(5) If complete information regarding subheadings (a) and (b) above has been previously submitted with an approved prospecting permit covering the same area, duplication will not be required if the information is judged to still be relevant by the Tribal Council.

(6) The applicant shall prominently publish an announcement of his application for a new permit as a legal notice in a daily newspaper generally circulated in the county of the operation. The announcement shall include a detailed legal description of the area of land to be affected in the permit year. Proof of publication shall be provided the Tribal Council.

(7) At least thirty (30) days but not more than sixty (60) days prior to the annual renewal date of the permit, the operator shall submit an application for renewal to the Tribal Council. This application shall include and the maps shall show:

(a) The exact number of acres of land affected by the operation.

(b) The extent of backfilling and grading performed during the current permit year.

(c) The extent of revegetative reclamation (seeding or planting) performed during the current permit year.

(d) Any undisturbed area currently permitted but which will be disturbed during the next permit year. An operator seeking to have a permit renewed shall delineate its current pit spoils, roads, treatment facilities

and sediment basins, and other features that will be utilized. All permit areas not renewed shall be reclaimed as defined by current regulations.

(e) Any revisions of the operating procedure as previously approved in writing by the Tribal Council.

(f) Any other relevant information the Tribal Council may require.

(g) In all cases where a vertical surface excavation is required, a current 7-1/2 minute U.S. Geological Survey map or equivalent shall be submitted if a hillside, bank, cut, or trench is to exceed a vertical height of less than 400 feet or greater than a tenth to one mile.

VI. PROSPECTING

(1) Application. A person who intends to prospect for coal, uranium, clay or phosphate rock on land not included in a valid strip mining permit must obtain a valid prospecting permit from the Tribal Council. An application for a prospecting permit shall be made on forms provided by the Council, and shall be accompanied by the following information:

(a) Documentation that the proposed exploration program would not adversely affect any area possessing special, exceptional, critical, or unique characteristics. The applicant shall promptly report the existence of such characteristics if in the course of prospecting he becomes aware of them.

(b) Identification of any significant historical, archaeological, ethnological, and cultural values in the area to be affected.

(c) A narrative description of the significant fish and wildlife species in the permit area.

(d) A narrative description of the local scenic, topographic, and/or geological formations in the area to be affected.

(e) A prospecting map which "sets the following requirements:

(i) The map shall be of sufficient size and scale to adequately show all areas to be prospected. Standard United States Geological Survey Topographic quadrangle maps will be used as base maps, if available.

(ii) If prospecting by test hole exploration is proposed, the maps shall include proposed locations, size and the average proposed depth of test holes. Specific locations for initial exploration shall be shown by quarter section, section, township and range. New road construction for drill rig or seismic equipment access shall be clearly indicated on the maps. Permanent roads, and roads that are to be abandoned, shall be identified.

(iii) Excavations or test cuts shown by location and size.

(iv) Location of streams, lakes, stockwater ponds, wells or springs that are known or readily discoverable proximate to prospecting operations.

(f) A narrative description of the exploration program which shall as a minimum include:

(i) A description of the proposed method of exploration.

(ii) The type of equipment to be used in the exploration.

(iii) The number of proposed test holes and their size and depth (refer to map locations); and the drill media (air, water, fluid, etc.) to be used.

(iv) A plan showing earth moving contemplated for road and drill sites in the prospecting program.

- (v) The mineral or minerals to be prospected.
- (vi) The source of the applicant's legal right to prospect for the mineral on the land affected by the permit.
- (vii) A discussion of preventive and/or corrective measures that will be taken to prevent or correct water pollution problems that develop with streams, lakes, stockwater ponds, wells or springs that are known or readily discernible.
- (viii) In the event that the Tribal Council must investigate possible environmental damage or complaints which may occur as a direct result of prospecting the permit area, the applicant shall furnish sufficient information to the Council to facilitate such investigation. Such information will include stratigraphic findings, test hole logs and related data.
- (3) Reports. Progress reports shall be required sixty (60) days prior to permit expiration. The Tribal Council may require more frequent reports as deemed necessary. Progress reports shall include, but not be limited to, the following information:
- (a) Location of all test holes.
 - (b) Updated maps.
 - (c) Any road construction.
 - (d) Current location of all drill rigs and/or test equipment.
 - (e) Areas disturbed, graded and seeded.
- (4) Renewal. At least thirty (30) days, but not more than sixty (60) days prior to the annual renewal date of the permit, the operator shall submit an application for permit renewal to the Tribal Council. This application shall include:
- (a) The number of acres of land affected by the operation.
 - (b) The extent of the reclamation performed.
 - (c) A copy of the map filed with the original application which shall show necessary revisions and any additional exploration proposed in the ensuing year.
- (5) Roads and Drill Sites. Roads or drill sites which are determined to be within an area to be strip mined need not be reclaimed. The Tribal Council may require grading and/or temporary revegetation of such areas if an excessive amount of time will pass before the area is mined. Prospecting roads shall be constructed according to the following requirements:
- (a) Insofar as possible all roads shall be located on benches, ridges, and flatter slopes to minimize disturbance and enhance stability.
 - (b) Roads shall not be constructed up a stream channel or so close that the material shall spill into the channel.
 - (c) Road gradients shall be kept low (except for short pitches to take advantage of topography). Maximum sustained grades may not exceed eight (8) percent. Pitch maximum may not exceed twelve (12) feet and shall not exceed 200 feet in length.
 - (d) Streams shall be crossed at or near right angles unless cutting down to the stream bed will result in less potential damage. Structures or road entrances and exits must be constructed to prevent water from flowing down the roadway.
 - (e) A ditch must be provided on both sides of a through-cut and with the outside of outsloping roads, on the inside shoulder of a cut-fill sector, with ditch relief cross drains being spaced according to grade. Water must be intercepted before reaching a switchback or large fill and be led off. Water on a fill or switchback must be released below the fill or switchback, not over it. Waterbars shall be installed where needed.

(f) Culverts shall be installed at prominent drainageways, small creeks and springs. Such culverts must be constructed in keeping with standard engineering on recommendations. Where necessary, culverts must be protected from erosion by adequate rock riprap.

(g) Trees and vegetation may be cleared for only the essential areas necessary to maintain stability of the road surface.

(h) Drainage facilities shall be installed as road construction progresses.

(i) Roads shall be out sloped whenever possible. If roads are to be used during snow season, in conjunction with proper drainage, snowdrifts are acceptable for vehicle safety reasons.

(j) Snowplowing shall be done in such a manner that runoff water shall not be trapped between the snow berms and run down the road.

(k) Materials which slough or slump onto the road bed or into the roadside drainage ditch before the permittee abandons the area shall be disposed of in the road bed or in a designated fill area in such a manner that will not obstruct any of the drainage facilities heretofore described.

(6) If exploratory drilling is proposed the prospecting plan shall contain the following commitments:

(a) Drill sites shall not be constructed in stream channelways (dry or flowing).

(b) Excavations and dozer work shall be kept to a minimum. All reasonable efforts will be made to locate drill sites in areas where no dozer work is necessary.

(c) Drilling mud and drill cuttings shall be confined to the site and if possible placed back in the drill hole as soon as geophysical loggings are complete. Seismic plugs shall be placed three (3) feet below the surface and the remainder of the hole shall be completely backfilled. The remainder of the cuttings that cannot be placed in the drill hole shall be slightly mounded over the hole and blended with the surrounding soils and the elevation of the adjacent surface.

(d) All refuse from drilling operations shall be completely disposed of by burying or hauling to an approved landfill dump.

(e) Should an artesian water flow be encountered, cement shall be placed in the hole in such a manner as to seal off the zone from which the water is flowing.

(7) Test Pits or Other Excavations.

(a) Test pits or other excavations shall be located out of natural flowing streams.

(b) Spoil shall not be placed in drainageways. The lower edge of spoil piles shall be placed well above the highwater flood level.

(c) Reclamation plans and preplanning efforts for excavations or strip mining that are to reduce dust and entice civilization to settle of essentially the same nature as those required for strip mining permits.

(8) Reclamation.

(a) Leaching of chemicals into groundwater supplies or potential water supply may result from the prospecting operations. Should the mixing of underground waters that may be detrimental to any existing or potential water supplies be detected, that portion of the hole containing the water bearing zone or zones shall be sealed off by spotting a cement plug across the zone or zones or by other approved methods.

(b) All flowing wells shall be permanently sealed unless approved by the Tribal Council for other uses. The Council may require a written

request from a landowner who desires that a drill site be reclaimed as a well.

(c) Aquifers shall not be contaminated by surface drainage.

(d) Topsoil removal shall precede each step of the prospecting operation where any excavation is involved.

(e) Planting and re-establishment of suitable, plant diverse vegetative cover shall be established on all areas of land affected except areas of authorized water crossings.

(f) Re-vegetative cover of predominantly native species by seeding or planting, by mulching, by straw, by establishing soil plugs, and/or by other methods as approved by the Tribal Council.

VII. PREPLANNING

(1) A person proposing an operation shall submit intended mining and reclamation plans along with maps for the anticipated life of the operation. The intended mining and reclamation plan shall be divided into time periods as determined by the Tribal Council. The intended mining and reclamation plan for the initial period shall contain all requirements which would be included in the application for an annual permit. The second time period of the intended mining and reclamation plan shall apply to the remaining life of the operation, (as determined at the time of application by mineral rights held either by lease, consignment or ownership). The intended mining and reclamation plans for the second period shall contain in as much detail as possible the requirements of a permit application. The operator shall be obligated to conduct the method of operation and reclamation in accordance with the provisions of the plans unless proposed changes requested by the company are accepted in writing by the Council. The Council may make changes in the mining and reclamation plans when problem situations are revealed by field inspection or as other relevant information is obtained. Upon request, an aggrieved person shall have an opportunity for a hearing, prior to any modification of a permit or reclamation plan. As additional information and/or maps are obtained by the company for the intended area of operations such information shall be promptly submitted to the Council. This rule does not repeal or otherwise modify the duty of an operator to annually apply for a new permit and/or the renewal of an existing permit.

(2) Adequate mine site resource inventories shall be submitted and shall include:

(a) A soil survey describing all major soils being present on the area of operation and their suitability for revegetative purposes. The soil survey shall include the following information:

(i) Sampling and analysis of soil horizons in sufficient detail to determine the soil types, present within the area of operations and to determine the depths to which soil should be saved within each soil type. Each horizon sample shall be analyzed for the following information:

(ab) The salt hazard (conductivity).

(ac) Sodium absorption ratio.

(ad) Cation exchange capacity, if the sodium absorption rate is greater than 10.

(ae) Mechanical analyses (texture) and determinations of the amount of inclusions for each soil horizon present at two or more locations within each soil type.

(ii) A soils map acceptable to the Tribal Council. The scale shall be one (1) inch equals two hundred (200) feet unless otherwise altered by the Council. Enlarged aerial photographs may be used as a map base. The map or photograph shall include:

(a) The soil types present and their distribution. The maps shall indicate within the various soil types the depth to which he soils are disturbed, if.

(ab) Soil sample map locations correlated to soil types for further testing.

(ac) Further soil studies if required by the Tribal Council

(b) Vegetative surveys shall include:

(i) A vegetative map acceptable to the Tribal Council which delineates community types based on two (2) or more dominant species. Dominant species are those which by their structure, number, or coverage have the greatest functional influence on the type.

(ii) A narrative describing the community types by listing associated species and discussing environmental factors controlling or limiting the distribution of species. Current condition and trend shall be discussed for each community type or portion thereof if significant differences exist within a type.

(iii) The vegetative survey shall be correlated with the soil survey.

(c) Wildlife Survey which shall include:

(i) A listing of the fish and wildlife species utilizing the permit area.

(ii) Population density estimates of each species insofar as practicable. Wildlife includes, but is not limited to, birds, mammals, reptiles, amphibians.

(iii) Season or seasons of use by each species must be noted along with a discussion of winter concentration areas, fawning or calving areas, nesting or brooding areas in the area affected.

(d) An aerial reconnaissance photographic survey of the area to be affected may be required by the Tribal Council.

(e) A narrative and graphic account of ground water hydrology, including but not limited to the lithology, thickness, permeability, transmissibility, production data (if any) and water quality analyses for each aquifer to be disturbed by mining. To assure protection of off-site water supplies, potential and developed, the report shall include:

(i) A listing of all known or readily discoverable wells and springs located three (3) miles downdip from the area to be mined and within one (1) mile of the area to be mined in all other directions.

(ii) A description of alternative water supplies that are not disturbed by mining that could be developed to replace water supplies diminished in quality or quantity by mining activities.

(f) Hydrologic data and water quality and quantity shall be available upon request by the Tribal Council.

(g) A detailed description of all materials that will be handled during mining or backfilling operations. The description shall include all physical, chemical, water infiltration, artificial weathering and plant growth data necessary to determine if special spoil handling procedures are necessary.

III. PLANNING AND RECLAMATION PLAN

(1) Backfilling and Grading.

(a) Backfilling and grading of the disturbed area shall be conducted by the operator in the event of necessary reclamation equipment from the area of operation. If the operator for good cause shown cannot complete backfilling and grading within the time period specified, the Tribal Council may require that the operator hire another contractor to perform backfilling, and grading, the Tribal Council may approve a revised time schedule. Financial bonding may be required.

(b) An operator shall show where the overburden and parting strata materials are to be placed in the backfill. Materials which are not conducive to revegetation techniques, establishment, and growth shall not be left on the top or within eight (8) feet of the top of regraded spoils or at the surface of any other affected areas. The Tribal Council may require that problem materials be placed at a greater depth.

(c) In the event that the operator plans to use fly-ash for fill material, it must be shown by adequate testing and analysis that the fly-ash material will not have any adverse or detrimental effect. Plans for placement of fly-ash or any other foreign material or processes in the backfill must be approved by the Tribal Council.

(d) Box cut spoils or portions thereof, shall be hauled to the final cut if:

(i) Excessively large areas of the mine perimeter will be disturbed by proposed methods for highwall reduction or regrading of box cut spoils or

(ii) Material shortages in the area of the final highwall or spoil excesses in the area of the box cut are likely to preclude effective recontouring.

(e) All final grading on the area of land affected shall be to the approximate original contour of the land. The final surface of the restored area need not necessarily have the exact elevations of the original ground surface. Where a flat surface or a surface with less slope than the original ground surface is desired, such surface shall be deemed to comply with backfilling and grading to the approximate original contour. With the exception of highwalls, railroad loops and access road cuts and fills through unmined lands, no final graded slopes shall be steeper than five horizontal to one vertical (5:1) unless otherwise approved in writing by the Tribal Council.

(f) The Tribal Council may require terracing to conserve moisture and control water erosion on all graded slopes during the process of current grading. Terraces shall be installed in such a way so as not to prohibit vehicular access or revegetative procedures. Terraces shall be installed at varying intervals as determined by climatic conditions, spoil and topsoil characteristics, slope, slope excess, and slope length. Suggested terrace installation intervals shall be submitted in the reclamation plan. Additional surface manipulation procedures shall be installed as required by the Tribal Council.

(g) Final grading shall be kept current with mining operations. In order to be considered current, grading and backfilling shall meet the following requirements unless exceptions are granted by the Tribal Council.

(i) On lands affected by area strip mining, the grading and backfilling shall not be more than two spoil ridges behind the pit being worked; the spoil from that pit being considered the first ridge. The Tribal Council may allow delayed grading of box cut spoils if better recontouring will result.

(ii) If the operation involves stripping and augering, the augering shall follow the stripping by not more than sixty (60) days and final grading and backfilling shall follow the augering by not more than fifteen (15) days; but in no instance shall an area be left ungrated more than 1,500 feet behind the augering.

(iii) All backfilling and grading shall be completed within ninety (90) days after the Tribal Council has issued the permit. Failure to do so will cause a prolonged suspension of work in the area will occur. Final pit reclamation shall proceed as close as possible to the coal loading operation as the frequency and location of ramp roads, the use of overburden stripping equipment in highwall reclamation, and other factors may allow.

(iv) Grading and backfilling of other types of subject excavations shall be kept current as departmental directives dictate for each set of field circumstances.

(h) Reclamation equipment to be used in grading and highwall reduction shall be listed in the application for a permit.

(2) Highwall Reduction.

(a) All highwalls shall be reduced and the steepest slope of the reduced highwall shall be no greater than twenty (20) degrees from the horizontal. Highwall reduction shall be commenced at or beyond the top of the highwall and sloped to the graded spoil bank. In all cases the final pit shall be backfilled so as to cover all exposed coal seams with at least 4 feet of non-toxic fill material.

(b) The company shall show by a narrative and cross-sections the plan of highwall reduction including the limits of buffer zones.

(3) Buffer Zones.

(a) All mining activities, including highwall reduction and related reclamation, shall cease at least one hundred (100) feet from a property line, permanent structure, unmineable steep or precipitous terrain, or any area determined by the Tribal Council to be of unique scenic, historical, cultural, or other unique value. If special values or problems are encountered the Council may modify buffer zone requirements.

(b) The transition from undisturbed ground shall be blended with cut or fill to provide a smooth transition in topography.

(4) Roads and Railroad Loops.

(a) Haulageway roads through permitted areas shall be allowed providing that their presence does not delay or prevent recontouring and revegetation on immediately adjacent spoils.

(b) Ramp roads will be allowed under the following criteria:

(i) No more than two (2) ramp roads per mile of active pit being mined shall be allowed. Fractional portions of ramp roads resulting from active pit lengths of uneven mileage will be counted as full miles, if applicable. (example: 2.1 (active pit mile length) x 2 (ramp roads/mile) equals 4.2 (ramp roads) or 5 ramp roads allowable). The Tribal Council may authorize an additional ramp road.

(ii) Full roads, beginning from the spoil edge of the pit being worked, shall be engineered so as to exhibit an overall 7% grade, or steeper, until topping on graded spoils. As each new pit is excavated, the ramp roads shall be regraded, as soon as possible, so as to remain at an overall 7% or steeper grade from the spoil side of the new pit. In all cases, ramp road renovation grading shall allow for topsoiling and re-vegetative activities to proceed during prime re-vegetative seasons. Lesser slopes

may be allowed if the Tribal Council makes a written determination that such slopes would cause safety problems or hamper successful reclamation.

(c) The Tribal Council may require that access roads constructed after the effective date of this regulation be graded, constructed, and maintained in accordance with the following requirements:

(i) No sustained grade shall exceed 8 percent (8%).

(ii) The maximum grade for each one thousand (1000) feet shall not exceed three hundred (300) feet.

(iii) There shall not be more than three hundred (300) feet of maximum pitch grade for each one thousand (1000) feet.

(iv) The grade on switchback curves shall be reduced to less than the approach grade and shall not be greater than ten percent (10%).

(v) Cut slopes shall not be more than 2:1 in soils or 1/2:1 in rock.

(vi) All grades referred to shall be subject to a tolerance of two percent of measurement. Linear measurements shall be subject to a tolerance of ten percent (10%) of measurement.

(vii) Additional requirements may be imposed by the Tribal Council if special drainage or steep terrain problems are likely to be encountered.

(d) The location of a proposed road or railroad loop shall be identified on the site by visible markings at the time the reclamation and mining plan is preinspected and prior to the commencement of construction. No such construction shall proceed along dry coulees and intermittent drainageways unless the operator assures that no off-site sedimentation will result.

(e) Drainage ditches shall be constructed on both sides of the through-cut, and the inside shoulder of a cut-fill section, with ditch relief cross-drains being spaced according to grade. Water shall be intercepted before reaching a switchback or large fill, and shall be drained off or released below the fill. Drainage structures shall be constructed in order to cross a stream channel, and shall not affect the flow or sediment load of the stream.

(f) All cut and fill slopes resulting from construction of access road, railroad loop or haulageway road outside of the area to be mined shall be stabilized, and revegetated the first seasonal opportunity.

(g) No roads or railroad loops shall be surfaced with refuse coal, acid producing or toxic material or with any material which will produce a concentration of suspended solids in surface drainage.

(h) All appropriate methods shall be employed by the operator to prevent loss of haulage or access road surface material in the form of dust.

(i) Upon abandonment of any road or railroad loop, the area shall be cleaned and sealed and adequate measures taken to prevent erosion by means of culverts, water bars, or other devices. Upon completion of mining and reclamation activities all roads shall be closed and reclaimed and the tribal council may direct the Tribal Council to ensure that certain roads of specified portions thereof are to be left open for further use.

IV.

BLASTING

(1) Any person conducting a mining operation shall comply with all state and federal regulations regarding the blasting and handling of

explosives.

(2) The blasting regulations contained herein apply to overburden blasting operations and to other operations as the Tribal Council may determine.

(3) Where blasting operations are being or shall be conducted on a mining site, a permanent sign shall be erected at the site. The sign shall have, with a white, highly visible background, the sign shall be a minimum of four feet square with the words "BLASTING AREA" in letters not less than seven (7) inches in height upon a background of contrasting colors.

(4) All blasting shall be schedules.

(5) Blasting shall not be conducted during hours of darkness, except in emergency situations such as those posed by approaching thunderstorms.

(6) All holes primed shall be blasted within seventy-two (72) hours.

(7) An operator conducting blasting operations shall notify all adjacent residents within a one (1) mile radius in writing, by hand or by U. S. mail that blasting will occur at certain times of the day. Adequate measures shall be taken to insure the safety of anyone near the blasting area prior to a blast.

(8) All roads into the blast area shall be guarded against unauthorized entry at least ten (10) minutes prior to the blast to insure that no one except authorized personnel are in the area. Suitable precautions for entry after a blast will be taken in the event of misfire or unusual circumstances.

(9) Audible warning signals shall be used.

(10) All employees on the area of land affected shall be notified of the blast signals. In addition, blast signals shall be conspicuously posted at all entrances to the mine area.

(11) Designated employees, hereinafter called the blasters, shall be in charge of blasting operations, and they shall supervise the fixing of all charges and all blasting operations.

(12) One individual other than the blaster shall be near the blast area, stationed at a safe distance, within view of the blaster and within contact of the blasters. He shall be responsible for blast signals.

(13) Any person conducting blasting operations shall take particular cognizance of any public or private facilities, active underground mines, liquid disposal wells, gas or oil wells, water wells, waterways, public or private water storage facility, or transmission lines in the blast area and shall take appropriate steps to preclude damage to those facilities.

(14) All operators or their certified blasters shall keep a log describing each blast. The following information shall be required:

(a) The company name;

(b) The location, date, and time of blast;

(c) The type of material blasted;

(d) The type of explosive;

(e) The location of the爆破孔 (holes);

(f) The number and depth of the holes;

(g) A description of the stemming;

(h) The shooting pattern of the blast, including information on maximum weight of charge per hole, per delay, and the burden spacing of the holes, and the type of initiation system.

(15) Every effort shall be made to minimize noise effects from blasting.

(16) Every effort shall be made to minimize the off-site damage occurring from the concussion or vibrative effects of blasting.

(17) Notwithstanding any other regulation, blasting shall not be done in such a manner as to eject debris onto adjacent property outside the permit area or onto the public right-of-way, land or waterways, unless such property:

Section 10. Water Quality Protection

(1) All operators shall comply with the following requirements and with all applicable water quality standards established by the Northern Cheyenne Tribal Council pursuant thereto.

(a) Non-degradation of waters. Waters within the domain of the Reservation that possess a high quality shall be maintained at their present high quality. Such high quality waters shall not be lowered in quality unless and until it is affirmatively demonstrated to the Tribal Council that such a change is justifiable as a result of necessary economic or social development and that the change will not adversely affect the present and future uses of such waters.

(b) Impoundment and Treatment.

(i) Treatment facilities in sufficient size and number consisting of but not limited to collection basins, water retarding structures and siltation dams shall be constructed with prior approval of the Tribal Council. All such facilities shall be constructed at or above the points of discharge into receiving streams for the purpose of treating acid or toxic water and for the settling of sediment prior to discharge into the receiving stream. As part of an application for permit, an operator shall submit the design specifications, drawings, method of operation and control, and quality of discharge of the treatment facilities. The operator shall indicate on the maps submitted as part of an application for permit the proposed location of all treatment facilities. Proposed reclamation of treatment facilities shall be included in the reclamation plan.

(ii) Additional treatment facilities may be required by the Tribal Council after commencement of the operation if conditions arise that could not be anticipated at the time of the permit application.

(iii) All approved and constructed treatment facilities shall be maintained in proper working order by the operator and operated so that they will perform as proposed in the application for permit. All treatment facilities constructed and approved pursuant to the provisions of this rule shall be monitored by the operator to assure continuous satisfactory performance until approved reclamation has been accomplished.

(iv) If a tailings impoundment will not fill the entire area, owned by the tribal council. If the Council determines at any time that a permanent impoundment area will not fill to expected levels, meetable interim standards may be established. In this case, the unutilized areas shall be regraded and surface drainage facilitated.

(v) To water quality, treatment of approved lakes or ponds shall be performed with tribal Council approval.

(vi) Monthly monitoring reports, where applicable, shall be submitted to the Tribal Council including the number of operating days, the gallons of drilling fluid treated, a list of the tests made in accordance with subsection (v) of this rule, and a description of any operating

problems and the corrective action taken.

(vii) The operator shall by the treatment of all runoff water prevent the drainage into the waters of the state drainage from any source, the pH of which is less than 6.0 or greater than 10.0, or which contains a concentration of iron in excess of ten (10) milligrams per liter. The discharge must register positive net alkalinity (total alkalinity must exceed the total acidity) and pH of eight (8).

The discharge may contain no sulfide at the requirements of this section.

(viii) The maximum total dissolved solids to be usually occurring stream turbidity is ten (10) Jackson Candle Units except that four (4) hours following a major precipitation event, the discharge shall not contain suspended sediments in excess of five hundred (500) Jackson Candle Units above normal and not over one hundred (100) Jackson Candle Units above normal twenty-four (24) hours thereafter. All analyses are to be defined and performed according to the Standard Methods for the Examination of Water and Wastewater, unless otherwise specified in writing by the Tribal Council.

(c) Drainage.

(i) All surface water which might damage regraded slopes or drain into the stripping pit shall be intercepted on the uphill side of the highwall or other mine perimeters by diversion ditches and conveyed by stable channels or other means to natural or prepared watercourses outside the operation unless it is determined that such ditches and channels are unnecessary or would create a more serious pollution problem. Such conveyances shall be of sufficient size and grade to prevent overflow into the mine area. If the ditches are likely to carry surface water only intermittently, they will be retopoiled and revegetated with grasses, forbs and/or legumes. All constructed diversion ditches shall be included in the permit acreage and shown on the map.

(ii) Water accumulating in the course of the operation shall meet the water quality specifications enumerated herein or shall be pumped or siphoned to a treatment or settling facility prior to discharge into a natural drainway. Under no circumstances shall water be discharged onto highly erodable soil or spoil banks.

(iii) No surface mine drainage shall be discharged through or permitted to infiltrate into existing deep mine workings. Location of all known existing deep mines within the permit area and plans for remedial measures shall be included in the application for a permit.

(iv) All drainage from the active mine area shall exit through impoundment or treatment facilities in accordance with Subsection (b) (i) of this regulation.

IV. RECLAMATION

(1) All mining operations shall be:

a. selected before further disturbance occurs. Topsoil removal shall precede each step of the mining operation. The operator shall indicate in the reclamation plan the equipment and methods used in topsoil salvage and redistribution.

(2) Stockpiles of salvaged topsoil shall be located in an area where they will not be disturbed by ongoing mining operations and will not be lost to wind erosion or surface runoff. All unnecessary equipment and contamination of the stockpiles shall be eliminated and once stockpiled the topsoil shall not be rehandled until regraded or prepared for planting.

The Tribal Council may require immediate planting of an annual and/or perennial crop on topsoil stockpiles for the purposes of stabilization. Proposed stockpile locations shall be indicated on the map submitted as part of an application for a permit.

(3) Stockpiled topsoil shall be regraded after all material has been deposited. Within 90 days prior to revegetative seeding or planting, extreme care shall be exercised to avoid soil erosion. If the topsoil is graded in the direction of a roadway, the roadbeds shall be leveled, disced, or otherwise conditioned if so determined. The Tribe will may prescribe additional alternate conditioning methods for the reclamation of abandoned roadbeds.

(4) If necessary, redistributed topsoil shall be reconditioned by discing, ripping, or other appropriate methods. Gypsum, lime, fertilizer, or other amendments may be added and/or as stated in the approved reclamation plan.

(5) Spoil surfaces shall be left roughened in final contour grading to eliminate slippage zones that may develop between deposited topsoil and heavy textured spoil surfaces. The operator shall take all measures necessary to assure the stability of topsoil on graded spoil slopes.

(6) Any application for permit or accompanying reclamation plan which for any reason proposes to use materials other than or along with topsoil for final surfacing of spoil or other disturbances shall document problems of topsoil quantity or quality. The application or plan must also show that the topsoil substitute(s) proposed:

(a) Will not contribute to or cause pollution of surface or underground waters;

(b) Will support a diverse cover of predominantly native perennial species equivalent to that existent on the site prior to any mining related disturbances.

XII.

PLANTING AND REVEGETATION

(1) A suitable permanent diverse vegetative cover shall be established on all areas of land affected except traveled portions of railroad loops and roadways or areas of authorized water confinement. Areas shall be planted or seeded during the first appropriate season following completion of grading, topsoil redistribution and remedial soil treatments.

(2) An operator shall establish a permanent diverse vegetative cover of predominantly native species by drill seeding or planting, by seedling transplants, by establishing sod plugs, and/or by other methods. All methods must have prior approval by the Tribal Council.

(3) The operator shall utilize locally grown genetically sound seed with regard to both quality and quantity.

(4) An operator shall plant seed of a pure and viable nature. Unless otherwise approved by the Tribal Council, seed shall be at least 50% live. Seed rates shall reflect the above percentages.

(5) The operator shall consider soil, climate, and other relevant factors when planting and/or seeding to provide for the best seed germination and plant survival.

(6) All drill seeding shall be done on the contour. When grasses, shrubs and/or forbs are seeded as a mixture they may be drill seeded in separate rows at intervals specified in the standard Soil Conservation Service (SCS) planting guidelines. Such mixed seedings shall be done in

this manner wherever necessary to avoid deleterious evolution of different vegetal types or to avoid seed distribution problems due to different seed sizes.

(7) Soil amendments shall be used as necessary to supplement the soil and to aid in the establishment of permanent vegetation as specified in the approved reclamation plan or as later deemed necessary by the Tribal Council.

(8) An operator shall use any other means necessary to insure the establishment of a vegetative and protective vegetative cover, including but not limited to irrigation, and fencing or other protective measures.

(9) The Tribal Council may require the seeding of annual grasses and/or legumes on such areas as it deems necessary.

(10) Mulch shall be immediately applied to all areas that do not have permanent or temporary cover established when, in the opinion of the Tribal Council, the grade or length of any slope presents a likelihood of substantial erosion or substantial deposition of sediment into any flowing streams.

(11) The Tribal Council will annually inspect seeded areas at the end of the growing season to determine species diversity, germination, and seedling take. If the Council determines that seedings are unsuccessful in terms of good germination and/or seedling take, immediate investigative action shall be taken by the operator at the request of the Council to determine the cause so that alternatives can be employed to establish the desired permanent vegetative cover at the very next seasonal opportunity. The investigative report shall be submitted along with prescribed course of corrective action prior to the next growing season.

(12) If the area affected is to be primarily utilized by domestic stock, the Tribal Council may require incorporation of a grazing system after vegetative establishment to gauge stand tolerance to grazing pressure.

APPENDIX "C"

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APPENDIX "D"

ACKNOWLEDGEMENTS

Affiliates

All State and Interim mining planners are directly affiliated to the state, federal, and local judiciary, individual and corporate owners, and various scientific and educational institutions. A partial list of affiliates is found below; omissions are not intentional.

United States Government:

Department of Interior - Bureau of Mines
- Office of Coal Research
- Bureau of Indian Affairs
Committee on Interior & Insular Affairs - U.S. Senate Joint Committee
on Atomic Energy

State of Montana:

Lt. Governor William Christiansen
Secretary of Planning and Development
Bureau of Mines
Montana Coal Council
Department of State Lands

Corporations:

Montana Power Company
Amax Coal Company
Peabody Coal Company
Horseshoe & Regan
Consolidation Coal Company
Chevron Oil Company
El Paso Natural Gas
Northern Natural Gas

and

The following individuals are private individuals members of the mine development committee

APPENDIX "E"
ORDINANCE NO. 7 (74)

TRIBAL COUNCIL OF THE NORTHERN CHEYENNE
NORTHERN CHEYENNE RESERVATION
LAME DEER, MONTANA

TRUE
COPY

ORDINANCE NO. 7 (74)

AN ORDINANCE OF THE NORTHERN CHEYENNE TRIBAL COUNCIL ACTUALLY PUBLISHED AND EXECUTED BY MEMBERS FROM THE NORTHERN CHEYENNE TRIBAL RESERVATION.

WHEREAS, the Northern Cheyenne Tribe has authority to exclude a member from the Northern Cheyenne Indian Reservation pursuant to the intended Constitution and By-Laws under Article IV, Sec. 1 (A), except where such non-members are presently under authority of federal law; and

WHEREAS, non-members of the Northern Cheyenne Tribe are increasingly acting in utter disregard of tribal ordinances, destroying tribal fish and game, trespassing upon tribal trust property and tribal allotments, polluting tribal lands, rivers, lakes and streams, destroying real and personal property of the Tribe and their members, endangering the lives of tribal members, both children and adults, and creating a legal no-man's-land on the Northern Cheyenne Reservation to the great harm of the financial, social and psychological well being of tribal members and all persons on the Northern Cheyenne Reservation; and

WHEREAS, the Northern Cheyenne Tribal Council is duty-bound to protect the lives and property of all members of the Northern Cheyenne Tribe and to preserve the Reservation and its way of life for future generations;

THEREFORE, BE IT ORDAINED by the Northern Cheyenne Tribal Council acting for and in behalf of the Northern Cheyenne Tribe at a special session held this (25th) day of September, A.D., 1973, degree that the following ordinance be established to authorize expulsion and exclusion of non-members from the Reservation as follows:

1. WHO MAY BE EXCLUDED. Any non-members of the Northern Cheyenne Tribe, except persons authorized by federal law to be present on Tribal land and owners of non-trust land on the Reservation, may be excluded from the Northern Cheyenne Reservation.
 - a. WHY EXCLUDED. A person may be excluded for one or more of one or more of the following acts within the Northern Cheyenne Indian Reservation.
 - A. Breach of the peace.
 - B. Intoxicated public drunkenness.
 - C. Entering an area of the Northern Cheyenne Reservation in violation of any order of the Northern Cheyenne Tribal Council and Superintendent of the Northern Cheyenne Agency designating such area as closed because of fire hazard or for any other reason.

- D. Failure or refusal to pay any taxes, rents or other charges justly due the Northern Cheyenne Tribe after reasonable notice and opportunity to pay.
 - E. Unauthorized cutting of timber or vegetation.
 - F. Any act causing physical loss or damage of any nature to tribal property or property of any enrolled member.
 - G. Crime, as defined by state or federal law.
 - H. Violation of any tribal ordinance.
 - I. Immorality.
 - J. Forcing entry into any Northern Cheyenne home without consent of the occupant or occupants.
 - K. Unauthorized prospecting.
 - L. Committing frauds, confidence games, or usury against any enrolled member.
 - M. Inducing any enrolled member to enter into grossly unfavorable contracts of any nature.
 - N. Defrauding any enrolled member of just compensation for his labor or service of any nature done at the request of the non-member.
 - O. Contagious disease.
 - P. Unauthorized taking of any property from the Reservation.
 - Q. Use, possession or sale of any drug, narcotic drug or controlled substance as defined by the state Uniform Controlled Substances Act.
3. NOTICE OF PROPOSED EXCLUSION. A judge of the Northern Cheyenne Tribal Court shall cause notice to be served personally or by registered mail upon any non-member whenever he believes cause may exist for exclusion of the non-member or whenever any member of the Northern Cheyenne Tribal Council requests him to cause the notice to be served. The notice shall state the reason for the proposed exclusion and shall be at the usual place where the non-member may appear before the Northern Cheyenne Tribal Court to show cause why he should not be excluded from the Northern Cheyenne Indian Reservation. The hearing shall be not less than (10) days after service of the notice or mailing of the notice, whichever is later, provided that if the judge shall have reasonable cause to believe an emergency exists, and the notice so states, the hearing may be held after twenty-four hours from the time of service or mailing, whichever is later.

4. HEARING ON EXCLUSION BEFORE NORTHERN CHEYENNE TRIBAL COURT.

After notice to the non-member proposed for exclusion, the Northern Cheyenne Tribal Court shall hold a hearing to determine whether the non-member shall be excluded from the Northern Cheyenne Indian Reservation. The non-member shall be given opportunity to present his defense at such hearing and may be represented by counsel. The Northern Cheyenne Tribal Court shall grant a continuance of the hearing on request by the non-member. After the hearing, or after due time for the non-member to notice the non-member does not appear, the Northern Cheyenne Tribal Court may order him excluded from the Northern Cheyenne Indian Reservation, or may permit him to remain upon the Reservation on such conditions as the Northern Cheyenne Tribal Court sees fit to impose. All orders of exclusion shall remain in force until revoked by the Northern Cheyenne Tribal Court unless the order specifically provides otherwise.

5. APPELLATE PROCEEDINGS. The Law and Order Committee or other appointed committee of the Northern Cheyenne Tribal Council shall sit as a court of appeals and shall sit at such times and places as it finds proper and necessary for the dispatch of business. To hear appeals from judgements or sentences made by any judge at the trial sessions.

There shall be established by Rule of Court the limitations, if any, to be placed upon the right of appeal according to the needs of the jurisdiction. In the absence of such Rule of Court, any party aggrieved by a judgement may appeal to the Law and Order Committee or other appointed committee upon giving proper assurance to the trial judge, through the posting of a bond or in some other manner, that he will satisfy the judgement if it is affirmed. In any case where a party has perfected his right to appeal as established herein or by Rule of Court, the judgement of the trial judge shall not be executed until after final disposition of the case by the Law and Order Committee or other appointed committee. The Law and Order Committee or other appointed committee may render such judgement upon the case by a majority vote of its members.

6. PROCEEDINGS FOR ENFORCEMENT OF ORDERS OF EXCLUSION. If any non-member ordered excluded from tribal land by the Northern Cheyenne Tribal Court does not promptly obey the order, the judge shall refer the case to the Superintendent of the Northern Cheyenne Indian Agency for appropriate action, or to the United States Attorney. If a reasonable time after reference to the Superintendent of the Northern Cheyenne Indian Agency or the United States Attorney, no effective action is taken in accordance with the order, the judge shall refer the matter to the General Counsel of the Tribe, who shall take such legal action as is directed by the Northern Cheyenne Tribal Council.

7. PHYSICAL REMOVAL OF THE INDIAN. In cases involving immediate danger to the life, health, morale, or property of the Tribe, or any of their members, and where any delay would result in irreparable damage, a judge of the Northern Cheyenne Tribal Court, with the

concurrence of the Superintendent of the Northern Cheyenne Indian Agency or the Bureau of Indian Affairs, or his deputy or assistant, may order any Northern Cheyenne Tribal law enforcement officer or Bureau of Indian Affairs law enforcement officer on the Northern Cheyenne Indian Reservation to remove a non-member and/or any property of such non-member bodily from tribal land, either before or after the non-member has been ordered excluded by the Northern Cheyenne Tribal Court, Section 3, above. The officer executing the order shall use only so much force as is necessary to effect the removal. If service of the notice provided for in Section 3, above, has not already been made on the non-member, the judge shall cause the officer to serve the notice upon the non-member at the time of removal, or he shall cause the notice to be served as soon after removal as possible.

In all cases where the non-member has not already been ordered excluded by the Northern Cheyenne Tribal Court, the judge shall notify the non-member of a place on the Reservation boundary where he may re-enter in the company of a Bureau of Indian Affairs or Northern Cheyenne Tribal law enforcement officer for the purpose of attending the hearing before the Northern Cheyenne Tribal Court. The Chairman shall order the officer to accompany the non-member while he is on the Reservation coming to and leaving his hearing.

7. SEPARABILITY. If any provision of this ordinance, or its application to any person or circumstances is held invalid, the remainder of this ordinance, or the application of the provision to other persons or circumstances is not affected.

PASSED, ACCEPTED AND APPROVED by the Northern Cheyenne Tribal Council by (11) votes for passage and adoption and no votes against passage and adoption this (25th) day of September, A.D., 1973.

ATTEST:

E. Fisher
Eva Fisher, Secretary
Northern Cheyenne Tribal Council

Allen Rowland
Allen Rowland, President
Northern Cheyenne Tribal Council

FOOTNOTES

¹See B. S. Jones, Geologic & Billings, Montana, 1971.

²See, Bureau of Indian Affairs, June 20, 1972.

³See Montana Indians, U. S. Department of the Interior, Bureau of Indian Affairs, July 1908.

⁴Coal Development in Eastern Montana, A Situation Report of the Montana Coal Task Force, Department of Natural Resources and Conservation, January 1973, p. 8.

⁵J. W. Blumer and R. E. Matson, Strippable Sub-bituminous Coal and Lignite Fields, Eastern Montana, Montana Bureau of Mines (Butte, Montana).

⁶C. R. Hubbard and others, Mineral Resources and Their Potential on Indian Lands, U. S. Department of the Interior, Bureau of Mines, Preliminary Report 170, November 1967, p. 14.

⁷Ibid.

⁸Ibid.

⁹Ibid.

¹⁰"Factors Affecting the Use of Coal in Present and Future Energy Markets," background paper, Congressional Research Service, Committee on Interior and Insular Affairs, U. S. Senate, Serial No. 93-9 (92-44), U. S. Government Printing Office (Washington, D. C., 1973) p. 3.

¹¹Ibid.

¹²Ibid., p. 1.

¹³Ibid., pp. 1-10.

¹⁴Ibid.

¹⁵Ibid.

¹⁶Clean Energy from Coal--A National Priority, 1973 Annual Report Calendar Year of 1972, Office of Coal Research, U. S. Department of the Interior, U. S. Government Printing Office (Washington, D. C.).

¹⁷"Factors Affecting the Use of Coal in Present and Future Energy Markets," p. 3.

¹⁸Clean Energy from Coal--A National Priority.

¹⁹"Enough energy resources are available now to meet our needs" (April 21, 1972), Special Report, pp. 57-60.

²⁰Ibid.

²²"Factors Affecting the Use of Coal in Present and Future Energy Markets," p. 3.

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25 Coal in the West, Part II, Carbon Engineers, Montana College of Mineral Sciences and Technology (Butte, Montana), August 1970,

26 The Future of Coal in the West Region, 1970-1980-1990, Federal Power Commission, June 1969.

27 Markets for Montana Coal, Cameron Engineers, Montana College of Mineral Sciences and Technology (Butte, Montana), August 1970.

28 Ibid.

29 Ibid.

30 Clear Energy from Coal--A National Priority.

31 Information Circular, El Paso Natural Gas Company, El Paso, Texas (personal communication).

32 Ibid.

33 Decker Coal Company, Decker, Montana (personal contact).

34 Northern Cheyenne Tribal Council Records, Northern Cheyenne Tribal Office, Lame Deer, Montana.

35 Northern Cheyenne Tribal Office and Bureau of Indian Affairs, Billings and Lame Deer, Montana.

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